The Builder.

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ILLUSTRATIONS.

Royal Academy Gold Medal and Travelling Studentship, 1895: Design for a Town Church.—By Mr. Pieter Rodeck:—
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Section looking North ..... *Double-Page Ink-Photo.*
Detail Elevation ..... *Single-Page Ink-Photo.*
Plans ..... *Single-Page Ink-Photo.*
New Municipal Buildings and Hall of the Trinity Guild, King's Lynn.—Messrs. Philip Tree & Ivor Price, Architects ..... *Double-Page Ink-Photo.*

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The Priest and the Architect.

THE announcement, in the bill of contents of the *Contemporary Review*, of an article on architects by Mr. Herbert Spencer, was calculated to excite some curiosity. Omniscience is Mr. Spencer's foible: he has among other things defined the origin and proper philosophy of the art of music, on certain assumptions of his own which cannot be proved, and which appear incompatible with some obvious facts as to musical æsthetic and design; and we believe that professors of some of the exact sciences have very decidedly questioned the exactitude of Mr. Spencer's assumptions in relation to their own particular sciences. We expected however to find the true theories and æsthetic conditions of the art of architecture laid down in the paper in question, and that we should at last have a decisive light thrown upon the subject, which would guide us amid our present wanderings and lead us to the promised land of architecture.

We are disappointed of this hope; our modern philosopher has still left us to wander. We have no new light from him as to the nature of architecture, the objects at which it should aim, or the means by which they may be attained. This, we may be sure, is not because Mr. Spencer could not tell us all about it if he would. He must have reasons for his unusual reticence; very likely good ones. But at present the fact appears to be that he has been contributing to the *Contemporary Review* a series of short articles on "Professional Institutions" and their development from their primordial germs, and that under the heading of No. IX. he has arrived at "The Architect." As a prominent character in a well-known comic opera undertook to tell the audience "how he came to be a judge," so Mr. Spencer undertakes to tell us how we came to be architects. The story is very briefly told, and supported by some significant quotations and authorities; and for a reason to be mentioned presently, we are inclined to accept it as, if not demonstrably true, at all events inherently probable.

The story is simply that the architect in his original form was a priest. "Building of the kind dignified by the name architecture," we are told (but what kind is that? for we seem to be sadly at variance about it at present), "cannot exist during early stages of social development." By "early stages" Mr. Spencer means very primitive man indeed. Architecture only arises when men have got to the point of keeping some remembrance of, some admiration or reverence for their ancestors, and wish to erect tombs in honour of them, or to preserve their bodies.

There must have been some kind of director in doing this, and it would not be long before a received way of doing it would be adopted first as a matter of custom, then as a binding matter of righteousness; and as ancestor-worship was the precursor of divine worship, and tombs and temples "are only less or more developed forms of the same thing," the director of the tomb-building came to be the priest of the temple, the one who possessed especially the knowledge of how the thing ought to be done, and who became therefore the man to direct the setting-out and design of the temple, to understand its symbolism, and, almost as a matter of necessity (if he was to retain his command) to understand and direct its mode of construction.

Such is in brief the outline of Mr. Spencer's argument, and he illustrates it by a series of references and quotations, briefly and tersely put, which, when read in conjunction which other, are really very remarkable in the manner in which they all point in the same direction. Even the fact that the Buddhist priests "forbade the people to construct their dwellings of any other material than sun-baked earth" seems to have a counterpart almost all through architectural history up to a comparatively modern period. Over and over again we have the phenomenon of the monumental temple, lasting in some condition or other through ages, and the evidently perishable dwellings which have almost entirely disappeared. Even as late as Shakspeare the fact is specially noted of the contrast between the stone church and the everyday buildings which were of more fragile and perishable material.

This view of the priestly function of the architect, or the architectural function of the priest, would naturally explain the importance attached to orientation and to symbolism in the Egyptian temples. It was not a mere question of producing architectural effect, it was carrying out a mystery of which a special sect were the exponents. In later times, no doubt, the mere fact that architecture, as it grew more complicated, became a subject requiring considerable skill and learning, and that the ecclesiastics were the only class of persons who had opportunity and leisure for cultivating their intellects, would tend to keep them for a long time in their old and traditional position as directors of the building craft. But although this was clearly the case in the Early Mediæval period, the chain of connexion seems to be rather broken by the interposition of the more secular Greek and Roman life between mediævalism and remote antiquity. Mr. Spencer observes that "the lack of a priestly organisation in Greece obscured the development of the professions in general, and that of architects among others." Are we to accept this as the reason for that remark in the pseudo-Platonic dialogues, which we had occasion to quote a little while since (*Builder*, Nov. 9, 1895), to the effect that, though Greek architects, when found, were very accomplished persons who expected to be paid very highly, "there were very few such architects in all Greece." However, the Greeks produced hardly any important buildings except temples, so that they may be accepted as more or less keeping up the idea of the priestly connexion with architecture. Mr. Spencer passes lightly over Rome, which one would think would hardly furnish support to his theory; for in Rome there were buildings more important architecturally than the temples. And yet the fact remains that the head of the church at Rome to this day is "Pontifex Maximus" "the chief bridge-builder," originally the title of a Pagan priest; which at least gives colour to the idea that even in the case of secular works the architects may have been found especially among the priestly caste, though Vitruvius gives no excuse for such a conciusion. Mr. Spencer certainly however makes a rhetorical point when he quotes Raphael's statement in one of his letters, that the Pope had appointed an aged prior to assist him in conducting the building of St. Peter's, and that he expected to learn some of the secrets of the art from him. But the quotation is, we

think, rather *ad captandum;* a literary hit more than anything else. Raphael no doubt found the geometrical problems connected with building a puzzle to him; and it was likely enough that learning of that particular kind, geometry and mathematics, might be found in the possession of a monk who, if inclined to give himself to such studies, had plenty of time to pursue them. The coincidence we take to be an accidental one, but it is curious, and as such was worth bringing in.

When and how the transition from the clerical to the lay architect in the Mediæval period really took place Mr. Spencer thinks we have no means of knowing; but considers it probable that by degrees and in the natural course of circumstances the clerical architect "limited himself to the general character of the edifice" ("to directing the general character" we suppose is intended), leaving the constructive part to the master builder, "from whom has descended the professional architect."

The whole theory as set out and illustrated in Mr. Spencer's article is certainly curious and worth attention. As we intimated above, there is one particular reason why we are disposed to give it credence. Many architects, we believe, can testify that of all kinds of clients there is none who can be so dogmatic, and who is so difficult to please, as the average clerical client, and none who so persistently thinks he knows better than the architect. Mr. Spencer's statement of the history and development of the architect seems to afford a kind of explanation of this. It is the spirit of the old clerical or priestly architect unconsciously re-asserting itself.

In conclusion Mr. Spencer observes that while the architects (lay or clerical) were few in number, segregation and association of them could scarcely occur, but that recently there has been formed an Institute of Architects, and that the body of men devoted to the art is making itself more definite by imposing tests for qualification. The concluding sentence runs:—"At the same time cultivation of the art and maintenance of the interests of those pursuing it are achieved by sundry special periodicals." The periodicals in question must indeed be proud of the honour of being thus recognised—dragged in as a tailpiece, as it were—by a philosopher. But about one of them Mr. Spencer is under a misapprehension. This journal is not conducted in the interests of architects, but in the interests of architecture. These are sometimes no doubt identical, but he will admit that there is a difference in the position.

THE BURLINGTON HOUSE LOAN EXHIBITION.

IT seems pretty clear that the time has come, as we suggested a year or two ago, to commence over again, as far as the liberality of picture-owners will permit, with the selection of old masters for the winter exhibitions at Burlington House. There is evidently an increasing difficulty in keeping the exhibitions up to anything like their old standard of interest and attractiveness, and in the present one the number of works that can be said to be of the highest interest is not very large; and the Royal Academy has contributed seven works out of its own collection, an indication that there is some difficulty in filling up the walls from other sources. The Queen and the Duke of Westminster deserve public thanks for having lent some of the finest pictures in the collection.

Among the portraits, which have usually been the most interesting factors in recent years, it is always a pleasure to see again Reynolds's well-known "Mrs. Siddons as the Tragic Muse"; a picture a trifle theatrical perhaps (a quality which may not be out of keeping with its subject), but certainly one of the most striking and dignified portraits of a lady that has ever been painted, and with a certain poetic imaginativeness about it also. The Queen has lent the fine half-length portrait group by Titian of himself and Franceschini; among the Reynolds's is a beautiful portrait of the Countess of Coventry, remarkable for the fine pose of the figure; there is the head of Gainsborough painted by himself, and Lawrence's half-length of the Duke of Wellington, remarkable for the dignified and chivalrous character which he has imparted to the great soldier's countenance and bearing, though as a work of art the picture is wanting in force and breadth of style. Reynolds shows very well too in the portrait of Lady Sondes, with its exceeding expressive countenance. Van Dyck's "Portrait of a Genoese Lady" is not a strong Van Dyck; on the other hand we have in Holbein's half-length of Sir Thomas More, in Gallery IV., a picture which, as Professor Richmond told the students in his lecture on Monday, is "a model of all that a portrait should be"; powerful and characteristic in expression, and painted with the most consummate care and completeness in every detail. Among the portraits is also Gainsborough's "Blue Boy," which we think has been here before; but it has been more frequently exhibited than most works of Gainsborough's, and possibly we may be mistaken as to its having been at the Burlington House exhibitions. Boucher's "Madame de Pompadour," belonging to Baron Ferdinand de Rothschild, was, if we remember right, exhibited here a good many years ago, and is less worth the honour of a second appearance than some others which have enjoyed it, though it is a characteristic specimen of the highly artificial and tinsel style both of the painter and the personage, who in costume, attitude and countenance is, as represented here, a perfect type of the Louis XV. era both of art and society.

Landscapes are comparatively numerous, and include some remarkable works, some well-known, others less familiar. Among the former are Constable's fine pictures of "Dedham Lock" (with the "leaping horse") and "Stratford Mill." Like Turner, Constable did not succeed very well with his foreground figures and animals; his horse leaps rather stiffly, and the painting suggests an engineering question which would not, we suppose, occur to art-critics generally; viz.: how is all that water confined, much above the level of the foreground, by a bank or dam of such very inadequate mass or construction? If the constructive facts were as represented, we should expect there would have been a breach in that dam long before now. Callcott's large and calm painting of Rotterdam, looking along the wide canal with its sleepy craft, is a picture which suggests reflections as to the progress of landscape-painting. It is a curious combination of the conventional and the realistic; the whole tone of the picture is that of Callcott, not of nature, while on the other hand the ships, except in regard to their mere colour, which is all subdued to the Callcott tone, are painted with a hard realism which conflicts with the general breadth of treatment, and gives them somewhat the appearance of property ships in a stage scene. The result is that the whole thing ceases to be a picture, and is only a "view," though a very fine one of its kind. It is an extraordinary instance of the utter want of any definite or common aim in English landscape-painting at that period, that Callcott should have been painting a picture of this kind about the same time that Constable was producing such a work as "Dedham Lock." The two seem to belong to a different country and a different age, and yet they were painted by two English artists who were born and died within a few years of each other.

Turner is well illustrated both in his strength and his weakness. His grandly composed picture of "Conway Castle," which we have not seen for some time, looks in some respects better in engraving than it does in reality; the colour is gloomy and oppressive; perhaps such a sentiment was intended, but it is carried rather too far. The architectural severity of line with which the clouds are built up round the castle so as to repeat to some extent its outline and apparently enlarge its mass, is one of the most remarkable points in the picture, and was obviously a studied incident in composition. On the other side of the same room hang two of the light and more richly coloured Turners of a later period, "Monte Aventino" and "Campo Vaccino," both lent by Lord Rosebery. Both are glorious in effect, yet one cannot overlook that in the former the architecture is exceedingly badly painted (look at the Corinthian capitals in the foreground), and that in the latter the line of buildings in the centre of the picture, white in the sunlight, is painted with such want of solidity and is so nearly the same tone as the water, that there seems to be a hole in the picture, occupied only by the ghosts of houses. In the large gallery we find Turner again represented by "Wreckers," painted in 1834, a very fine seabeach picture with a rough sea, and "Blue Lights to warn Steamers off Shoal Water" painted in 1840. The lapse of six years between the two pictures are rather too clearly discernible; the "blue lights" is a remarkable effect, certainly, but the picture is utterly incomprehensible and unreal.

Among the minor paintings which have interest of a varied kind are Reynolds's two curious and original studies of "Mercury as a Cutpurse" and "Cupid as a Linkboy"; original, but not very happy specimens of Sir Joshua's occasional divergence into a kind of semi-humorous subject. Morland's two terrible pictures of "A Fishing Party" and "A Luncheon Party," in Gallery I., which were popularised in his day by coloured engravings still to be met with in *curio*-shops, must surely have been painted to order for the purpose of engraving; it is impossible to imagine them the production of Morland with a free hand. Etty's small painting of "Venus and Cupid Descending," with a crimson drapery obediently repeating the main lines of her figure, is an interesting reminder of what we have left behind us, as also Mulready's much better painting of "The Wolf and the Lamb," from the Royal collection. The latter is one of the most carefully painted of Mulready's *genre* works, and in the figure of the bully he has given a study of a certain type of schoolboy which in fidelity is almost worthy of William Hunt; yet one cannot help feeling that the picture is a vulgar one; the subject, and the manner of expressing it, are so commonplace that one almost resents the amount of ability bestowed on it.

A special feature in the Loan Exhibitions has been commenced this year, which, if further carried out in one or two future exhibitions, may prove of great interest. Gallery II. is devoted entirely to pictures by French artists of the earlier portion of the century, including one or two, such as Millet and Lepage, recently deceased. Amid the numerous names of living French artists who occupy such a large share of public attention at present, we are too apt to forget the great painters of the last two generations in France, some of whom at all events represented a sounder and better school of art than that which is most predominant in France at the present moment. The names of Delacroix, Decamps, Dupré, Ingres, and others, are familiar enough to critics and students of painting, but probably at this moment convey very little to the general public. It is unfortunate that the start in illustrating specially the earlier French painters of the century is a rather weak one. There seems to have been a difficulty in procuring important and typical examples, which have probably in this instance been looked for in England only. If the Academy could persuade French owners to lend paintings by deceased French artists, a splendid collection could be got together; and perhaps another year the attempt will be

made. As it is, however, there are several remarkable works, though none which can be said to be among the most important works of the painters whose names they bear, unless we except Daubigny's "Moonlight" and Decamps' "l'Abreuvoir." The former is a very remarkable attempt to represent the effect of a sky covered with small fleecy clouds illuminated by the moon; by sacrificing light and colour in the landscape portion of the picture, more boldly than those who paint moonlight generally do, he has succeeded in giving a real effect of luminosity to the moon and clouds, and a light which has the quality of moonlight. Decamps' painting, from Lady Wallace's collection, was one of that remarkable set of French pictures lent by Sir Richard Wallace a good many years ago to the Bethnal Green Museum, and is a fine example of this artist's masterly power of seizing and portraying the salient facts of light and colour in a scene with such truth of effect as to rivet the attention. The picture is simply a great mass of walling of an Eastern fort, with the glare of the sun upon it and relieved against a white cloud, with some figures and horses at the base of the wall; there is nothing in the subject except just the bare scene as the artist saw it, but it is a picture that leaves a permanent impression on the mind. Delacroix's small oil sketch of Paganini has been universally recognised as a remarkable bit of portraiture, both in regard to character and handling; his larger and elaborate picture, the execution of Marino Faliero, though fine in colour, is a work of a much more academical type, and perhaps was hardly worth bringing forward now. Delaroche's two pictures, on either side of Delacroix's Paganini sketch, show like respectable commonplaces in comparison. Millet is represented by his well-known picture of two men sawing at the trunk of a tree, in which there is energy enough of action and design, though it can hardly be called one of his best works; and his girl seated under a tree, "La Rêverie," however pretty in sentiment and composition, shows us a face which is a blank circle like a plate, absolutely unmodelled, but with eyes and mouth inserted. This cannot be called sound painting, and it may be questioned whether Millet intended us to regard it as finished, though nothing to the contrary is suggested in the catalogue.

By Lepage there is a charming portrait of Marie Bashkirtseff as a child. There are three Meissoniers from the Wallace collection, in the master's finest style of execution, though not among his most interesting works. The pictures by Watteau do little good to his name, and it is a pity that such a painter as Gericault should be represented by a single small and unimportant work. Ingres' "Odalisque," a sketch for a larger picture, is interesting as apparently anticipating to some extent Henner's habit of melting off the outlines of the nude figure into the canvas. Fragonard's pretty little picture called "La Lettre," a young girl in the fashionable dress of her period, writing on the bark of a tree, is one of the most favourable specimens of the artificial sentiment of the period of which Fragonard was an artistic exponent, sometimes in much more questionable taste than this.

Such landscape-painters as Rousseau, Troyon, Dupré, and Corot, are not of course fairly represented by the works to be seen here; it is hardly fair in fact to the first two to bring them before a public some of whom know very little about their works, by means of such small and unimportant pictures. Corot is represented by a very beautiful though comparatively small work "Evening," a small version we believe of a larger and very fine picture; his little sketch of Rome as seen from the Pincian, however, between and beneath two solid masses of tree foliage, is in its way very interesting. Diaz, whose reputation has always been somewhat of a puzzle to us, is represented by one of those small, gloomy, broadly-painted landscapes which seem to be all there ever is to show of him; but no visitor should omit to notice the small Dupré, "Crossing a Bridge," for its powerful style and grand bit of sky; though this is only Dupré on a small scale, it has his great qualities.

The most interesting portion of the exhibition, however, to many of our readers, will be the collection of silversmiths' work in the water-colour room. We are heartily glad to see that the dedication of this room to objects of arts other than pictures is being kept up. It serves to keep people in mind of the fact that there are other types of "old master" besides painters, and affords a most useful opportunity to our artificers to study ancient metal-work; and we observe that there appears to be some attendance in this part of the exhibition among artisans, who as a rule do not trouble themselves much about the pictorial portion of the loan exhibitions. We are far from saying, however, that everything here is good for study, and there are objects which seem to be exhibited rather for their costliness or the position of their owners than for artistic considerations. We cannot see, for instance, how anyone is the better for the exhibition of the "Armada Pilgrim Vase" (Case F) lent by the Queen; a thing in the shape of an enormous flask (about 2 ft. high), and covered with coarsely modelled ornament gilt over. One is surprised to see the description "English: early eighteenth century," appended to it; we should have been inclined to think that this was a mistake for "early nineteenth century." The "Bacchanalian Cup," also from Windsor Castle and in the same case, is another warning rather than example; the quotation of the short description in the catalogue is enough to characterise the kind of thing and its place in design completely: "ornamented with shells, serpents, grapes, and serpent handles entwined with the vine, on the stem is a boss of goats' heads. The cover is of rockwork, on which is seated a young Bacchus holding a bunch of grapes." Was this, we wonder, a purchase from the 1851 Exhibition? It is a pity that design of this kind should receive, as it were the *imprimatur* of the Academy of Arts, and be placed before the public as if it were an admirable specimen of work; but no doubt it is difficult to decline a loan from a Royal collection to a Royal Academy. On the other hand, Windsor Castle has furnished one of the finest specimens of Renaissance metal-work that could be seen, in the shape of the repoussé iron shield, damascened in gold and silver, which is placed in the centre of the room. The surface of this is divided into four compartments by terminal figures, each compartment being occupied by subjects from the life of Julius Cæsar, in bas-relief. The subsidiary ornaments are executed with the greatest finish and refinement; and though there may be nothing striking or specially marked by genius in any one portion of the work, there is a balance and completeness both of design and execution in it which render it worthy of most careful study. The work has been ascribed to Cellini, the Academy catalogue says without any reason; and to our thinking the work is less that of an original and powerful artist like Cellini, who always put his own peculiar *verve* into everything he did, than of a very accomplished craftsman; but in its own way it is a most complete and perfect achievement.

The collection is stated to be chiefly intended to illustrate the art of the English sculptor-goldsmith, though, as we have seen, the finest piece of work in the room is Italian, and there are other foreign specimens of considerable importance, such as the French reliquary in Case A, which shows some very remarkable detail, especially in the decorative ridge filled with pierced foliage, which is almost like Indian work in its combined richness of effect and precision of line. Indeed we observe that everything in this case is foreign (German or French), except one processional cross lent by the Society of Antiquaries. The contents of Case B, however, are entirely English, and include two classes of objects of considerable interest. First there are the tall cups with covers, of the seventeenth century, each of which has its cover finished with an open-work steeple; interesting examples of the application to silversmiths' work of a form derived from architecture, yet treated in such a manner as to render it suitable for metal-work. The other class of objects are the three massive salt-cellars or salt-bowls, with projecting vertical arms, four at equal distances round the rim, to support the cloth which at this period (end of seventeenth century) was thrown over the salt instead of a lid. All these are of massive proportions, with a firm base and a very good outline, and may stand as examples of the good effect to be got in metal-work by plain and solid treatment with well-designed form. In Case C a useful contrast may be drawn between the cup numbered 1, known as the Lombard Cup, belonging to the Drapers' Company, and the Leigh Cup, No. 3, belonging to the Mercers' Company. The former shows some exceedingly delicate decoration designed in such a way as not to interfere at all with the main form of the cup. The latter is a much more pretentious piece of work, ornamented with crossed bands, raised from the surface, bearing a number of lozenge-shaped compartments which are filled with maidens' heads and flagons alternately. There is no obvious meaning and no beauty of design in this detail, which forms a kind of mechanically conceived ornament to fill up a surface where the artificer wished to put something, and had no better idea than this at his command. Meaningless ornament is far inferior to a plain surface, and is a waste of labour; so much let the artisan-visitor, if he looks at it, learn from this example. The cups belonging to the Barbers' and the Armourers' Company respectively (Nos. 4 and 7) are better examples of ornate work, and in the latter the delicate ornament round the rim is a very pretty bit of work. The cup belonging to Oriel College (Case D, No. 9) is also worth study as a design with a good deal of character. In Case E two flagons, Nos. 1 and 10, are fine examples of plain work in which the effect depends solely on well-designed form; and a dish (No. 2) belonging to the Fishmongers' Company, has the same kind of merit, the decoration being produced solely by incised inscriptions following the lines of the design, and a coat-of-arms on one part of the rim and a flower on the other, all incised and producing no incrustration of or interference with the main form. We do not for a moment condemn richness of ornament in silversmiths' work, which is indeed a most proper field for it; but the ornament should be controlled by the general form and not appear to be an incrustation upon it; and some of the examples we have noticed serve to show what a very good effect may be produced, in designs for plate, by good form and plain surfaces, with only a small amount of incised ornament which does not disturb the form in any way. The cup and cover from Christ's Hospital (Case E, No. 4) furnish an example of sheer vulgarity of design; the bowl and foot are embossed with scroll-work of fruit and flowers; the stem is formed of the twisted trunk of a tree, treated in a naturalistic manner. This, which was presented to Christ's Hospital in 1602 by "Thomas Banckes, Citizen and Barber-Surgeon," is about as thoroughly bad a piece of design as could be seen, and probably represents the personal taste of the barber-surgeon, who very likely gave directions for its design, rather than the unsophisticated manner of the artisan of that period.

Some of the official insignia—maces, &c.—in case G, are of interest though not of the best order of design, any more than the various badges of the Order of the Garter; but there are two steel keys from Windsor Castle (Nos. 10 and 12) which are perfectly

admirable, the handles treated in flat pierced foliage ornament, very rich in effect but perfectly serviceable as handles. These were respectively Queen Mary's and Charles II.'s master-keys to the doors in Windsor Castle. One wonders, if a new master-key for Windsor Castle were ordered now, what sort of article would be provided, and what chance there would be of getting anything so artistic as these two specimens. The manufacturing firms who from time to time send us photographs of their specially made keys for ceremonial openings had better go and study these two examples. In the same case is a specimen of the worst kind of taste, a pendant lent by Lady Wallace (No. 18), consisting of an eagle with head, breast, and wings of gold enamelled in colours, the body of the bird formed of a large pearl, with the legs (in gold) attached. The pearl of course looks perfectly shapeless when put to represent the bird's body; the whole glory of the thing, such as it is, consists in the fact of the financial value of the large pearl, which, properly set, would have been a thing of beauty, but with this treatment is only a monstrosity. No date is given for this performance, but we take it that this must be contemporary work; it is exactly in the taste of the modern jeweller.

We have endeavoured to suggest some of the distinctions between good and bad artistic work which are exemplified in the contents of this exhibition, for to consider it from that point is to get the real value and usefulness of it, especially for those who are occupied in designing or producing work of the same kind.

NOTES.

AMONG our reports of legal cases this week we have put on record a summary of the evidence and the judgment in the case of the Metropolitan Asylums Board against the District Surveyor of Hatcham, which came before the "Tribunal of Appeal" recently, and was decided in favour of the Surveyor. The case is of some importance, as the Asylums Board wished to build a wall 120 ft. long and over 25 ft. in height, of 14 in. thickness throughout, the provisions of the London Building Act being that in such a case the lowest story should be an 18 in., wall. Evidence was given by Mr. Aldwinckle, the architect to the Board, and by Mr. Arthur Harston and Mr. Percy J. Smith, to the effect that a 14-in. wall was sufficiently stable; but one of the objects of the Building Act is to provide that walls, especially in buildings of a public character, should be something more than just "sufficient" under favourable circumstances. There appears to have been no reason whatever in this case for making an exception from the conditions of the Act, and the Tribunal of Appeal rightly declined to do so. Had they given way, a most undesirable precedent would have been set up for whittling away the provisions of the Act.

IT is well known to our readers that last year the British School of Archæology at Athens, owing largely to a Government grant of 500*l.* a year, entered on a new and we trust increasingly prosperous course. The first evidence of renewed activity in the School lies before us in the shape of the "Annual"—published for the first time. This "Annual" takes the place of the old and somewhat meagre "Report." It is issued to subscribers only, and owes its rise to the fact that the Committee have long felt that the subscribers to the school ought to receive some more adequate *quid pro quo*. The first number of the "Annual" contains, besides the ordinary report, the "Memorial" in full, in response to which the Government grant was made; also an account of the meeting at St. James's Palace on July 9, 1895. In addition we have seven papers arising out of the work of the school, among which we may especially mention an account of the latest discoveries at Hissarlik by R. Carr Bosanquet; and a very entertaining paper on St. Paul and the Areopagos, by the Rev. A. F. Findlay. The "Annual" is illustrated by three phototype plates—two views of Marathon, and one of the Temple at Rhamnus. We trust that the issue of this substantial "Annual" will result in the addition of a large number of subscribers.

ACCORDING to the scheme prepared by M. Formigé, the architect, for the installation at Pére Lachaise Cemetery of M. Bartholomé's great sculptural work the "Monument aux Morts," it will be placed with its back against a building which will serve as a place for provisional interments, and which will at the same time protect the sculpture from any movement of the ground, which is always to be reckoned on as a possibility in the slippery clay soil of Pére Lachaise. The building, as a backing to the work, will also serve to give greater breadth and mass to the effect of the sculptural work, which will form an *avant-corps* in the composition, flanked on each side by the lateral portions of the building, slightly recessed, and decorated with sculptured doors giving access to the crypt formed in the building. In addition to this, in order to give greater elevation to the monument, the central alley of the cemetery at this point will be levelled so as not to follow the main slope of the ground. The cost of the work will be about 67,000 francs. The new construction will thus be of practical use, besides forming a magnificent ornament to the cemetery.

THE Luxembourg Museum, which has been closed for some weeks for annual cleaning and re-arrangement, has re-opened, with the addition of sixty new pictures and 150 objects of art in the shape of sculpture, drawings and engravings. In the entrance vestibule is the pretty fountain, "Le Poème de l'Eau," which the sculptor, M. Henri Cros, exhibited at the last Salon. In a special case are some beautiful ceramic works by M. J. Cazin, presented by the artist. In the Sculpture Gallery have been added some medals by M. Roty and M. Chaplain. There are also to be seen here two very interesting specimens of contemporary ceramic work, a chimney-piece in stoneware by M. Dalpayrot-Lesbros and a decorative door-framing by M. Delaherche. In the picture-galleries we may mention as new acquisitions the "Port d'Alger" of M. Besnard; "The Inquisiteurs Blancs" by M. J. P. Laurens; the portrait of Dupré the landscape-painter; the "Parqueteurs," by the impressionist painter Caillebotte, and the "Femme en Jaune" of Alfred Stevens. In an adjoining gallery is exhibited the splendid collection of drawings presented by M. Puvis de Chavannes, and which have formed the studies for the execution of the greater portion of his works. The arrangement of the new works and the nature of the recent acquisitions speak well for the continued care and attention of M. Bénédite, the accomplished curator of the Museum.

THE competition opened at Reichenberg for the design of the new Bohemian National Museum has been decided in a somewhat curious way. The designs which showed the best planning and architectural treatment all exceeded the cost specified, and were hence *hors concours*, whilst the more inferior work was within the limit of the proposed expenditure. To have given a premium to the best of these inferior designs was out of the question, but the funds for this purpose (5,000 florins, or about 420*l.*), were divided equally in the purchase of six designs, which the jury considered might serve as "studies."

WE learn from Athens that the Greek Archæological Society there is about to form itself into an Institute, somewhat after the lines of the several foreign organisations. The new Institute, which is in fact only a more formal reconstitution of a long existing body, proposes to itself the following objects: The editing and publication of the *Ephemeris Archaiologikè*; the supervision of excavations undertaken by the Society, negotiation for sites, &c.; the making known of the results of such excavations by means of lectures, conferences, and the like; the purchase of antiquities, and the responsibility as to price to be paid. Finally, besides the more specialist conferences, members of the Institute will undertake to deliver courses of lectures of a more popular character. There is unquestionably room for a Greek Institute of this kind, but we wish it were possible that its transactions could be published in either French, German, or English; the modern Greek language is not as yet well adapted to precise scientific expression. Philhellenism is, however, so in vogue at Athens that even the French and German schools allow articles to appear in their organs in modern Greek—a practice we hold to be most undesirable.

THE first lecture given by Mr. W. B. Richmond as Professor of Painting at the Royal Academy was delivered on Monday afternoon last in the theatre of the Royal Academy, a good many visitors attending besides the students. The President of the Academy was also present, and had an enthusiastic reception from the students, in recognition of the recent official honour conferred upon him. The subject of Professor Richmond's present course of lectures is the very interesting one of the Sistine Chapel and Michelangelo; but his first lecture was a general and preliminary one. Commencing with a warm eulogy on the abilities and noble character of his predecessor in the chair, the late Mr. Hodgson (which will be fully endorsed by all who had the privilege of knowing the late Professor), he proceeded to sketch out the position and principles which he proposed to maintain in his future lectures, urging on the students the paramount importance of earnest and severe study in technical training, discharging some humorous satirical arrows against the modern school of impressionists and others who thought to achieve fame by inspired sketches and symbolisms, before they had mastered the real technical difficulties of their art. Decrying (perhaps a little too severely) the influence of the French art and teaching of the present day as unwholesome and pernicious, Professor Richmond said that he had chosen the subject of Michelangelo and his great work partly as a protest against the new school of sensational effect, and in favour of seriousness of aim and dignity of style, qualities which Italian painting had displayed more fully than that of any other country or school.

THE amalgamation of the suburbs of Berlin with the city proper, which has to furnish "Greater Berlin," has been deferred. The regulation of the River Spree is not yet out of the engineers' hands, and only a few sections of the new metropolitan railways have been started during the past year. Several important bridges over the Spree and the canals have, however, been opened to vehicular traffic, notably the "Oberbaum" and "Gertraudten" Bridges, both works of considerable importance. Of monuments erected in 1895 from public funds, we must notice the Luther statue and the Berolina monument, also a statue to the deceased Empress Augusta, for which the funds were voluntarily collected. A large number of churches are well in hand, and three very important ones are consecrated, *i.e.*, the memorial church to the late Emperor William, the memorial church to the late Emperor Frederick, and the Guadenkirche. These three churches practically represent the progress made in the architecture of Berlin during 1895.

AS usual, the Christmas season was the occasion for some unfortunate theatre fires and fatalities, of which a panic caused by a false alarm at Baltimore, U.S., appears to be the most serious. Just before the close of the performance, a burner fell off a gas-bracket, causing a sudden spurt of the flame. The cry of "Fire" was raised, with its usual fatal consequences. Nearer home, we had a fire at a Belfast theatre during the night after the performance. Here the damage was limited to a considerable loss of property, though the building itself was not materially damaged. At Bucharest the new Théâtre Lyrique was entirely gutted during the night. During the course of the year the number of theatre fires has been unusually few, and they were principally confined to the United States. There were fires at the Theatre Royal, Glasgow, which was gutted. This building has been re-erected in a wonderfully short time by Mr. Phipps. A theatre at Tula (Russia), the "Adrian" Theatre at Rome, Jacob's Theatre at New York, the Reichshallen Theatre at Bonn, and the Politeama Theatre at Monte Video were the scenes of what may be called the most interesting fires; but we have not space to go into their different peculiarities or to give a further list of the more commonplace fires which occurred, such as one at Kutais, in the Caucasus, where the building had only been opened in 1888. Though we have fortunately not had any serious loss of life at home, nor have there been any considerable fatalities on the Continent, the few examples mentioned suffice to again warn us of the dangerous properties of our play-houses, and prevent any tendency on the part of the London County Council to relax its theatre regulations.

THE announcement that the Committee of Council on Education are about to institute an Exhibition of English Furniture and Figured Silks of the seventeenth and eighteenth centuries, at the Bethnal Green Museum, promises an interesting opportunity of studying the work of the best period of furniture design and construction of this country. It appears from the circular of the Council that it is not only in England that the furniture of our seventeenth and eighteenth century period has excited so much interest of late years. Commissions it appears, have visited England both from Germany and Austria to inspect the work of Sheraton, Chippendale and Hepplewhite at the South Kensington Museum, and to secure specimens or good copies, for their national museums. It is to be hoped that all this will not lead rather to copyism than to the best kind of study. The furniture of the period referred to, and especially of the three makers above-mentioned, is in reality just as valuable as an example of sound construction and finish as of design; the design is often open to question, the workmanship never; and it is in regard to this quality that it affords so excellent an example for modern furniture-makers. In regard to the silks the circular says:—

"Recent changes of fashion have caused a demand for eighteenth century patterns in figured silks, the manufacture of which formerly gave employment to 60,000 weavers in the East of London, and the designs of the early days of George III. are now being revived or adapted. Possessors of dresses and costumes made of these silks will be invited to lend them for exhibition, and, as eighteenth century trade pattern books—which attach to cut examples of the silks the names of weavers and merchants—will be included, comparisons between the designs in these samples and the patterns in the old costumes will probably lead to greater accuracy in dating the English figured silks already in the possession of the Museum."

The collection, which is to be opened in April, will remain open for six months, and will include also the loan of Sir Wollaston Franks' collection of porcelain, and of the "Chantry Bequest" pictures.

A PARAGRAPH which appeared in a daily newspaper last Saturday is likely to give currency to the belief that the Dean and Chapter of St. Paul's mean to dispose of the porch, within the north door, bearing the inscription to Wren that concludes with Robert Mylne's commonly misquoted words: "Lector si monumentum requiris circumspice." We are informed, upon enquiry, that such is not the case, and that the porch whose six marble columns, with Ionic capitals, the authorities propose to remove is the larger and more modern one at the end of the south transept, on the inner side of the "Resurgam" portico. That gallery was used for an organ, originally built by Messrs. Hill for the Panopticon, in Leicester-square (on the site of the present Alhambra), which was bought for St. Paul's about thirty-five years ago when the introduction of Sunday evening services under the dome converted that area to a purpose which Dean Milman averred was doubtless contemplated by Wren. In 1863 Mr. Henry Willis removed from the stalls to the side of the gallery organ the keys of the older organ,* which in 1860 had been shifted from the screen to the north-east bay of the chancel. In 1871-2 the Cathedral organ was divided and re-constructed in its present position by Mr. Willis. Thereupon the gallery organ was sold, and rebuilt for the Victoria Rooms, Clifton, by Messrs. Bryceson under the late Dr. S. S. Wesley's superintendence.

WE read that the Corporation of Abingdon have decided to rent, on lease, the remains of the monastery from the trustees of the local Municipal Charities, with a view to their preservation. That once famous mitred Benedictine Abbey was founded for twelve monks at Bagley Wood,† by Cissa, viceroy of Centwine, King of the West Saxons, and his nephew, Heane, Overlord of Wiltshire. It was shortly afterwards removed, *circa* 680, to Seoveschesham, renamed, on that account, Abbendon. Destroyed by the Danes, St. Nicholas's Abbey continued desolate for eighty years, until it was re-instated by King Edred (or Edwy) at Dunstan's instigation, who made Ethelwold, Bishop of Winchester, its abbot. Leland says that Abbot Fabricius, *obiit* 1117, rebuilt Ethelwold's church, and that the four succeeding abbots erected the central tower, nave, and west front. Most of the buildings, except the gatehouse, were destroyed at the Dissolution, the revenue being then estimated at nearly 2 000*l.* yearly. On his surrender to the King, Abbot Thomas Pentecost, or Rowland, was awarded Cumnor Place and a pension of 200*l.*: see our "Note" of August 6, 1892. The remains include the Perpendicular gate-house (by the church), which is vaulted, and has central and side arches; and eastwards, on a back-water, a stone and timber-framed building, which some consider to be the guests' dormitory; also a massively-built fourteenth-century block, adjoining, which has in the upper floor an open-timbered roof; and near this a spacious vaulted undercroft, its groining supported by a central shaft. The abbey, which counted many of our pre-Conquest kings amongst its benefactors, was visited at Eastertide, 1084, by William I., who charged Robert d'Oilly and the monks with his son Henry's education. Other pupils here were Geoffrey of Monmouth and Robert de Beaumont, Earl of Leicester and Hereford, Chief Justiciar of England in 1115. Dugdale tells us that Abingdon was an important town, with a Royal residence, of the Britons; and that Nicholas de Culham, Abbot in 1289-1307, built St. Nicholas's Church. The church was restored in 1881—when the nave roof was rebuilt of oak—under the superintendence of Mr. Edwin Dolby, of Abingdon, at a cost of 2,550*l.* The carved oak reredos is a gift of the Rev. W. Cobham Gibbs, rector in 1878-84. There is a tradition that in the abbey were buried Cissa and Geoffrey; Leland says the remains of Edward the Martyr (Edwy's nephew) were carried thither.

THE "Landscape Exhibition" at the Dudley Gallery, which consists of a collection of works by Mr. R. W. Allan, Mr. James S. Hill, Mr. Hope McLachlan, Mr. Peppercorn, Mr. Leslie Thomson, and Mr. E. A. Waterlow, proves to be one of the most interesting exhibitions we have seen there. The works of each artist are grouped together, and include some very fine landscapes, mostly characterised by great breadth of style. Among those by Mr. R. W. Allan are some, especially the small ones entitled "Nature's Mirror" (4) and "Harvest Time" (7) which recall some of the qualities of the school to which belonged such French painters as Dupré and Diaz. Mr. Leslie Thomson's landscapes include some very fine works, especially "New Moon" (18) and "The Homeless Sea" (26), a sea painting with a beach and a piece of wreck in the foreground. Mr. Waterlow's works are in a less powerful style, but many of them are beautiful in execution and feeling, especially "Moonrise" (32), "The Night before Shearing" (35), "Flowering Gorse" (36), and "A Warm Evening, South Devon" (41). Mr. M'Lachlan, as usual, studies special effects and composition in landscape, occasionally in rather too crude style—"The Wind on the Hill" for instance; but he has realised some fine and unusual effects, as in his small picture "A Planet" (52), a night effect with a single large star reflected in the water, and "In Evening's Quiet" (47) is a really fine and poetic composition. Among Mr. Peppercorn's works which are exhibited "The River Bosham" (73) and "Bosham Morning" (75) are especially good; also, in a different manner "Rye, Road to Winchelsea" (69). Those who are interested in modern landscape-painting should not omit to look at this exhibition.

THE collection of "Portraits of the Seventeenth and Eighteenth Centuries," at Messrs. Dowdeswell's Gallery, consists chiefly of Dutch portraits by Miereveldt and others, which are rather hard in style and do not interest us very much. But there is a real point of interest in the collection in the shape of a study (full size) by Sir Thos. Lawrence for the portrait of Lady Peel. It is extraordinary how much finer and broader it is in style than Lawrence generally is, and shows how much he must have spoiled the best qualities of his art by over-finish.

ARCHITECTURE: WHAT IS IT?*

SOME time ago, while standing in a bookseller's shop, I chanced to pick up the first volume of the then recently published "Chambers' Encyclopædia," in many ways an interesting and up-to-date work, fairly representative of one side of modern thought; and curious to see what its definition of architecture might be, I turned to the subject, and there, in the very first sentence of the article, I found it written that "Architecture is the art of building or constructing." Now, while this may be accepted as an undoubtedly popular definition, it seems to me that one might quite as accurately define poetry as the art of grammar; for if a knowledge of building or constructing is to make a man an architect, it may be quite as reasonably argued that a knowledge of grammar will make a man a poet, a contention as unreasonable as it is absurd.

Poetry is not merely the art or science of grammar, neither is architecture merely the art or science of building or constructing, and we must draw a very broad distinction between these two. An architect should undoubtedly realise his architectural conceptions by the aid of good materials and sound construction, but it does not follow that a knowledge of these two last-named sciences must of necessity make one an architect. The science of grammar, however sound its legs and wind, will never raise one to

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* By Father Smith (1697); a swell organ, by Crang, added *circa* 1800; improved by Bishop in 1826.

† About two miles distant, up the Thames; it has been identified with Chiswell Farm, near Foxcomb Hill.

* A paper read at a recent meeting of the Glasgow Architectural Association by Mr. Jas. A. Morris, F.R.I.B.A.

those lofty heights of imaginative thought, wherein a man dreams dreams and sees visions; neither will it open to him the windows of earth and air, and sky and sea, and show him the glories within, which having himself seen he can thereafter sing of to his fellows. Now, while writing is one of the means, and perhaps the principal means, a poet has of expressing his thoughts, it must yet be remembered that all who write are not poets, neither are all who build architects. What, then, is architecture? Poetry is something more than writing, and architecture is something more than building. Neither is it polished verse or balanced rhythm that makes the truest poetry, any more than that excessive care constitutes big and noble thinking. First there must be in the heart the song of the poet, the musician, the architect, and then the means to sing the song will not be wanting. An old Glasgow painter, a deep thinking and kindly man, said to me many years ago, "If a man has a real story to tell, something that the world is waiting to hear, then the means of telling the story will come also."

Of grammar and building, I fear we must in truth say that they are of the earth, earthly. Poetry and the power to live the arts is of divine origin, and be only spiritually exercised and discerned. Now I would wish my paper to-night to be an eminently practical paper, and one of solid value to us all; and as our everyday work, week in week out, is, I fear, to many of us, somewhat humdrum and prosaic, there can be little harm done if we look at architecture to-night from a standpoint other than that of the office, and consider it as a fine art, as it is, and not merely as utilitarian in its aims and end. It will be well, therefore, for us if we accept architecture as something serious, something ennobling, existing in the same high world as poetry and music, and the sister arts, all of which are but different voices uttering the same high thought. "Truth," said Corot, "is the first thing in art, and the second, and the third." If a man knows or cares nothing for this spirit in art, this ideal, then is the man no true artist; and if he has this spirit, let it be never so feeble a spark, and does not submit to it and walk up to it, then is he no true man. The aim of an artist cannot be the accumulation of wealth, or the attainment of personal and selfish ends alone, but rather to live as lived Michelangelo, and like him to establish it as a principle, "that to live in credit is enough, if life be virtuously and honourably employed for the good of others and the benefit of posterity." This is the spirit in which I take it we should work, if we wish that our work should give pleasure to others, or be at all lasting.

If we would but be content to be simple, and to think simply and naturally, then in the end would we learn to think bigly and well. Self-consciousness and affectation would much disappear, and if we could not be great in ourselves, we would at least be fitted to possess that next best gift, the power of discerning greatness in others. We cannot afford to play with our art, neither can we afford to prostitute it without hurt to ourselves.

No one can trifle with or lightly treat what one reveres, and the lines of Matthew Arnoldare as true of architecture as they are of poetry:—

> "What poets feel not when they make
> A pleasure in creating,
> The world, in its turn, will not take
> Pleasure in contemplating."

Or as Holman Hunt recently said to painters: "If a work does not, on sober examination, give you the conviction that Nature in that place is sweeter or nobler than you thought before, it is not good to you."

Is it uncharitable to think that different, surely, is this from the spirit in which much of our modern work is carried through; wherein some seem to run architecture as they would a commercial business, the end and aim of which appears to be to get increase of work, and thereby money, forgetting how true in art, above all else, are the words of Thomas Carlyle—"The deepest depth of vulgarism is that of setting up money as the Ark of the Covenant?" If we admit the necessity that to live one must make money, it does not follow that one must of necessity make that money by architecture. Now we must be careful to distinguish between what has come to be called the profession of architecture, and architecture itself, the which are two very different things. To this end, it may be well for us to-night, in seeking to consider what architecture is, to disassociate from it altogether the merely money-getting or material business element, of which, in our daily work, we have all a sufficiently enough intimate acquaintance. Now in this connexion here is a fact worth pondering: that as an almost invariable rule, and one with few exceptions, the biggest businesses in the architectural world, and those in which, if ever, architectural fortunes are made, are precisely those run on purely commercial principles, and those are the businesses in which the architectural quality of the work is nearly always in the inverse ratio to the amount of work done. And why? Is it not because, through press of business, the principal often degenerates into the office feeder, bringing grist to his mill, and leaving it to a more or less competent staff to attend to its grinding? While the deepest depth of all is surely that in which an unprincipled man gets into his employment a gifted draughtsman, the shoe's latchet of whose feet he is architecturally unworthy to unloose, and by whose skill, and by whose brains alone, work is produced, of which he has been incompetent to guide a single stroke, but which he claims as his own, and publicly says so, because, forsooth, it emanated from his office, and he has paid for it. To my mind, in plain English, such a course is simple fraud, and fraud of the meanest kind. Surely none would ask another to paint a picture, or write a sonnet, and subscribe it with his own name? Or would any honest man write a cheque on another's credit? The law punishes the one as fraud, because what is stolen is money, but the other filches brains only, and is ofttimes accounted an able organiser.

I read somewhere that Herbert Spencer's opinion of every-day architecture is poor. He writes, "Of all the arts, architecture is the only one that has not been far surpassed by the moderns, except only statuary"—he is speaking, I take it, of classic architecture—"and that as architects persist in copying the works of other men and other times, society has no respect for their productions." This latter pronouncement is irritating, because true, and is condemnatory of the senseless introduction of old forms and details, merely because they are old, forgetting altogether that they are in themselves sensible and beautiful because they are parts of the expression of an idea and portions of a complete architectural achievement; just as in the human figure each several part is necessary to and fitly fulfils its own function. Add to a leg a second foot, or an additional finger to a hand, and the result is a monstrosity little less offensive than the ignorant interchange or senseless reproduction of old forms and details from which the use, and meaning even, have in the transfer been severed. Architecture must be creative, not selective, and least of all selective without knowledge.

Mr. Gladstone, again, is no inconsiderable observer, and he has not a word of praise for modern architecture. One circumstance in domestic architecture terrifies him—the redundancy of bad ornament. "You will find," he says, "that the architect had either a horror or a dread of leaving bare a single square foot of wall, as if there was something indecent in so doing." "Excess of ornament," he fitly adds, "is of all things the most hostile to a due appreciation of proportion, because it is in proportion to the perception of breadth, and beauty, and line, and in the adjustment of lines one to another, that the essence of the art lies, and in that you will find the hope of attaining high excellence in great work." I have purposely directed your attention to these two opinions, because they are the expressions of men of culture, intellectual prominence, and even perhaps of genius—men who, although not architects, are yet capable to express an opinion upon architecture which may be of value.

To few men is a great mission in the arts given. A genius may be born, perhaps, once in a century; but is not genius, after all, just the power of seeing beyond and behind the surface of things?

You and I may be very ordinary people, and in our work commonplace enough; but let us at least seek to possess an ideal, and an unselfish one.

You may have been reminded, as I was, during the centenary celebrations of Thomas Carlyle a few days ago of one of his greatest utterances, that "All work is religion; and whatsoever work is not religion may go and dwell among the Barbarians, Antinomians, Spinning Dervishes, or where it will: with me it shall find no harbour." No one, therefore, who does the best that in him lies need be ashamed of his work. Of what one may be ashamed is affectation and insincerity. In our work especially affectation is weakness and insincerity is contemptible.

Our question, What is architecture? is as yet unanswered, and no one can define it for you in words. If, however, we have eyes to see, and the power to understand what we see, we will find an abundant answer in every line of a Greek temple, in every stone of a Mediæval church, and in all work that is high in aspiration, noble in conception, and true in itself. Thus, also, was it in those Renaissance days wherin it was difficult sometimes to say whether an artist was most of architect, painter, or sculptor. Those whom it has become the custom to call "the old masters" often expressed themselves more or less powerfully in them all. They built, they painted, they made the dead rock all but live. Is such an age possible again? Scientific analysis and commercial success are the tests by which most things are judged; but still good work here and there is being done, and a hopeful sign is that among the better painters and art workers of the day decorative feeling and a knowledge of the power of line is again being sought after and found; and when one realises that the consummation of line power is architecture, is it over daring to assert that when a true knowledge of what architecture is becomes again universal that then also will it be found that under its roof-tree alone will a real union of the arts be possible.

Louis Stevenson in one of his always beautiful passages writes, "I find I never weary of great churches. It is my favourite mountain scenery. Mankind was never so happily inspired as when it made a great cathedral; a thing as single and specious as a statue to the first glance, and yet on examination, as lively and interesting as a forest in detail. . . . . I never could fathom how a man dares to lift up his voice in a cathedral." Is not that a sublime touch, "mountain scenery." The great stillness, and majesty, and awe of the eternal hills; their grandeur and exquisite beauty, their mysterious sympathy. That one touch is the essence of religion as Carlyle puts it; and yet that mankind should have seized the very soul of the mountain and incarnated it in stone and lime!

If not then in architecture, the earliest of all the arts, wherein is their union to be found? The painter, the sculptor, the artist, craftsmen of all degrees, have brought to it their best gifts. In it their work has ever found its most fitting shrine. Where else than in a great church can an altar-piece—the divine love of the Crucifixion, the human love of a Madonna—find best its material counterpart? Where else do the glories of storied glass awaken so responsive thoughts? Where else is music so grand and solemn and helpful, as when it soars to the highest heights and fills the loftiest of dim vaults with its voice human and divine, while the light from rich glass suffuses its full tones with colour. Can the arts dwell together more fittingly united than when enshrined in such architecture? Can any great picture-gallery, be the light never so perfect, give the same sense of unperplexed rest to any art-work as does a great church? It somehow, to me, seems to repeat those most exquisite of all lines in all languages:—

> "He maketh me to lie down in green pastures;
> He leadeth me beside the still waters."

I once heard architecture defined—and I was much surprised—as "a materialised embodiment of faith, raised to the glory of God, and which in all its parts and details symbolised His divine attributes." Perhaps the attempt at a definition was not wholly wrong; and at least most thinking men will give it higher place than that other definition, that "architecture is the art of building or constructing."

Therefore it may have been that in those older days, wherein artists laid what was best in them at the feet of worship, they were wise in seeking their inspiration from the highest source, and in offering there the best gifts.

Architects, painters, sculptors joined hands in one person, or in a brotherhood, and a real union of the arts may again, perhaps, be found when artists realise their kinship and their common need one of the other, for their manner of thought and work are one.

Contrast, then, this past relationship with the present divorce. In our own day, and as society becomes more complex, art is in danger of becoming specialised; and there has grown up, in consequence, a severance between the arts, and a dislocation of art terms which is altogether unnatural. In painting, we have now the portrait painter, the landscape painter, and all sorts of varieties. Just as in architecture have we not the church architect, the house architect, the hospital architect, and many others? Now, wherein these latter men largely become specialists, is in their knowledge of the utilitarian or practical requirements of their particular subjects. A man

may have the most complete knowledge of hospital requirements, and may build a most perfect hospital—so far as hospital requirements are concerned; but, while such requirements are, in themselves, most excellent and necessary, they can yet never, in themselves, become architecture. By a large section of the general public, however, they have unfortunately, I think, come to be so recognised; and an architect is too often judged, not by his architecture, but by his practical knowledge and skill; and therein lies much of the evil. Now I do not wish anyone to go away with the idea that our heads are in the clouds, and that we have nothing at all to do with the earth. We have, in truth, a great deal to do with it.

It is not by any means impossible to make the most prosaic of buildings architectural. Instance Dance's Newgate Prison. Architecture is not a mere covering separate and apart from what it covers, like a garment which may be taken from one and worn by another. It is not only the outward expression of that which is within, but it is a part of it; and every line or feature that is without meaning, and that is not essential to the building, should be removed. The whole building should express what it is, and what the architect has to say by it, just as a picture speaks, or a poem, or music. This is what I take to be the spirit of architecture and of all the arts; but it is not, I much fear, generally so understood by the public, to its own loss and ours. In the Architectural Association none of us, I feel sure, belong to that class of exclusive people who can see no good thing at all in the public; but neither do we fall down and blindly worship the voice of the people as the voice of the gods. In a general way we all much respect the public, and where a matter of the heart is concerned the public is nearly always right. But the public all the same is hard to be interested in what does not apparently affect it. Applied science appeals to it strongly, because its marvellous results meet directly its daily needs; but in art, that which is equally real, only less direct in its application, it does not care to be puzzled over, and what it does not easily understand, it dislikes and even resents. Any sentiment it has to spare it likes to have invoked by sentiment, plain beyond a doubt. A woman in black, young if you like, crying. An empty cradle: a little sock in her hand, or a shoe. Take the most pathetic and sacred grief on earth, only make the crape broad enough and the attitude the conventional one of woe, and the public is content: forgetting all the while that an inspired painter can impart to the woman something of the divine holiness of God's love in the mystery of what we call death, and can open for us in part the windows of heaven, so that one can in some measure see with Him into the glories of the beyond. My wish is to try, so far as I may, to utter something of the truth and nobleness of art, and to lift it at least a little beyond the current exchange of £ s. d. I know that the public well likes to see what it considers value for its money, and no one can blame it, but the great mass of the people have their eyes so blinded to what art really is, that a large portion of them are content with a German lithograph, and an oleograph is to them as eloquent as a Madonna by Raphael. Unfortunately, by many of all classes, art is much looked upon as a thing to minister to their pleasure or amusement. To some it is merely the "correct thing," and therefore right. It is in many mouths but in few hearts. Now our Cinderella is just waiting for her Prince. There have always been individuals or groups with quiet insistence telling us of better things. In our own day take the pre-Raphaelite brotherhood. See Whistler among the prophets: and look at your own Glasgow school of painting. Why should there not be a Glasgow school of architecture? Is there not just now more than a beginning of it visible? There is something bordering upon it in Edinburgh, as in Glasgow, among the younger men, and it is to you younger men that the whole future belongs. It seems to me that society is awakening from its long art sleep. Consider some of those famous pictures that have found homes in and around Glasgow. Look at the collection of old Dutch pictures in the Corporation Galleries; and think of, or better still, see, if you can, the loan collection of nineteen pictures now on view in the Ayr Exhibition. Surely all these things could not be except there was an art-love or an art-knowledge somewhere in the land, and such pictures surely could not have been acquired save by men of taste, or in response, at least, to an awakened appreciation of true art. Art, of all things, needs discerning sympathy, and when the people again become artists, then must art again flourish, and with a power greater perhaps than even of old.

It is for you younger men to join with painters and sculptors and art-craftsmen of all kinds, learning from them and teaching also. Then you will find that artists are all treading the same paths and working for the same ends, and so close is their relationship, and so needful their help one to the other, that only so unnatural a thing as divorce could ever have separated them; but re-united they learn each much of the others' craft, and so united they may again perhaps form a brotherhood of art. Look at the few but hopeful instances in which artists and craftsmen have joined together in our own day. See Sedding's Church at Chelsea, architect, painter, sculptor, craftsmen, all working for a common end.

Would it not be possible for this Association to so widen its doors and to make itself—active as it is—a yet stronger power in the city, and to comprise within its membership, like the London Art Workers' Guild, architects, painters, sculptors, poets—if it can get them—musicians, and art craftsmen of all kinds

Speaking to young men leads one always to think of training and education; and while avoiding all vexed questions of examinations. for which much can be said against and for, certain words of a speaker at Oxford on some dangers of modern education may aptly be quoted:—"The other danger," he said, "was that, under undue pressure from without, they should lean for ever so little to that theory of education which would have us to construct machines of so many horse-power rather than to form character, and to rear into true excellence that marvellous creature called man—and should seek to prepare for success in life instead of securing that a man shall always be greater than his work, and never bounded by it." So far as my knowledge goes, the teaching of the Glasgow School of Art appears to approach to something of this high altitude. For a student is there taught to draw in clay or colour, or with whatsoever he will, provided he can best express himself therein; and the teaching wisely seeks to adapt itself to the individual student, rather than to subordinate the student to the school; and architecture, in its broad meaning, is made the basis of the whole.

From this example at our own doors, let us turn our eyes to the Florence of the early fifteenth century, and look at the training and life of one Filippo Brunelleschi, born there in 1377. Filippo was the son of a notary of good renown, and a very praiseworthy man; his mother, an excellent woman, was of the noble family of the Spini. He was a man little of stature, and not comely to look upon, but full of noblenees of soul, eloquence, and force of character; a kindly man, and of benign and amiable disposition, In judgment he was calm and dispassionate, and laid aside all thought of his own interest, and even that of his friends, whenever he perceived the merits and talents of others so required. He knew himself, and from the stores of his own genius instructed many; he was ever ready to succour a neighbour in all his necessities, and he declared himself the confirmed enemy of all vice, and the friend of those who laboured in the cause of virtue. He did not spend his moments vainly, and, although always busy with his own work, was ever ready to assist others. Such is a brief epitome from Vasari of the character of the man. In his childhood Filippo was taught by his father the rudiments of learning with the utmost care, and he learned quickly; but as he grew up he would neither follow the calling of a notary, like his father, nor yet that of a physician, like his grand- and great-grandfathers, the latter of whom had been a most eminent man; all of which caused much displeasure to his father, who at length placed him in the Guild of the Goldsmiths, that he might acquire the art of design, he having been constantly intent on questions of art and mechanics. Filippo set precious stones most excellently, and presently overstepped the limits of the goldsmith's calling. He studied the division of time, the adjustment of weights, the movement of wheels, and made watches. Being seized with an earnest desire to attempt the art of sculpture, he sought the acquaintance of Donatello, then a youth of great promise and a few years younger than himself, and they became most strongly attached one to the other. He studied architecture and decorated houses. He also, in certain existing buildings, constructed doors and windows, not in the Gothic, but, after the manner of the ancients, in the Classic style, a thing apparently not then very frequently done. He executed a statue of Santa Maria Maddalena in linden-wood for the monks of Santo Spirito. He discovered a correct method of perspective, then a new art, and made many drawings therein. He instructed those who worked in tarsia, and from his time better work therein prevailed. He turned his attention to the Scriptures, and attended much the disputations and preachings of learned men. At the same time he gave earnest study to the works of Dante, and discussed all things with Donatello, than whom he could find none other so much to his satisfaction. Now here is a characteristic little story of these simple days. Donatello had made a crucifix of wood for the church of Santa Croce, and asking the opinion of Filippo thereon received for answer, that he had placed a clown and not a Christ upon the cross. Donatello, hurt, replied, "take wood, then, and make one thyself." Filippo, who never suffered himself to be angred, did not reply; but several months afterwards, when, with Donatello having purchased in the market-place eggs and other things upon which they were to dine, and having placed them in an apron, Filippo sent him forward to his house, till he should afterwards follow; and when poor Donatello entered the room in which was a wood crucifix carefully placed, and on which Filippo had worked during these months, of the same size as Donatello's in Santa Croce, he was amazed, and in his amazement suffered the contents of his apron to fall unheeded to the floor. Donatello's "Take wood and make one thyself" had been answered, and he—kindly soul—not only confessed himself conquered, but declared the work a miracle.

The talents of these two young men having been perceived, they were commissioned by the Guild of Butchers and the Guild of Joiners, each to erect a figure in marble for niches in San Michael, but Filippo, being occupied with other affairs, suffered Donatello to execute both.

Now those of you who think competitions are a modern invention of the Evil One, please be good enough to listen carefully.

In 1401 it was resolved to reconstruct the two doors of the church and baptistery of San Giovanni—the glorious south doors had already been executed in 1330 by Andrea Pisano. Tuscan sculptors were invited to submit designs, and among them were Filippo, aged 24, Donatello, aged from 15 to 19 (the exact date of his birth is uncertain), and Lorenzo Ghiberti, aged 20. One year was allowed for the preparation of the work—while we weakly moderns are asked to design palaces in three months—and on its expiry, when the works were placed together, and exhibited without mottoes—listen again carefully—instead of each man crying up his own wares, Filippo and Donatello, perceiving that Ghiberti's work was better than theirs, and best of all, they therefore, by the good reasons they gave, persuaded the Signoria and Operai to give the doors to Ghiberti, and that he might alone have all the credit, Filippo when requested to undertake the work in concert with Lorenso, refused, "desiring rather to be first in some other art," than an equal merely with another, and to the detriment to both. How aptly to this admirable unselfishness do the lines of our own Tennyson apply?

> An artist, Sir, should rest in Art,
> And waive a little of his claim;
> To have the great poetic heart
> Is more than all poetic fame."

Now hereafter note Ghiberti's unhandsome repayment.

When the competition had been settled, Filippo and Donatello betook themselves to Rome; the former to study architecture, the latter sculpture. To provide funds, Filippo sold a small farm he possessed; and when the lads reached Rome, Filippo stood amazed at the magnificence of its architecture. He at once set about measuring all the work he could undertake, plans, details, cornices; labouring continually in and about Rome, and measuring everything good within reach, sparing neither time nor cost. Beaten in sculpture by Ghiberti, Filippo was possessed of one immense idea, nothing less noble than the completion of the dome of Arnolfo's great church, which none since Arnolfo's day had dared to do. Thus he should rival the works of Giotto and Cimabue. To this end he laboured incessantly, but he did not confide his desire to Donatello or to any living being. He pondered over the Pantheon, he examined and made careful drawings of the vaults of antiquity, he caused labourers to excavate where they could till foundations were laid bare and measured, and the Roman people called them "treasure-seekers." By-and-by, Filippo's money was done, and he supplied

his wants by reverting to his old craft of setting precious stones for the goldsmiths. Donatello returning to Florence had left him alone. Consumed now by the fever of work, he neither took time to eat or to sleep. "He drew temples," says Vasari, "round, square, or octagon, basilicas, aqueducts, baths, arches, the Colosseum, amphitheatres, and every church built of bricks, of which he examined all the modes of binding and clamping, as well as the turning of vaults and arches. In 1407 his health gave way somewhat, and he was advised to return to Florence, which he did, rich in knowledge for his beloved project. In the same year—and rumours of this must have reached him—a great assemblage of architects and engineers was called in Florence to consult as to the best means by which the cupola of the cathedral might be raised. Filippo proposed the raising of a great drum upon the piers, on which would rest the dome, and models were prepared by him accordingly, but in secret; meanwhile, he amused himself by helping Ghiberti at his doors. But as we have seen, Filippo was a man of resource, and hearing one morning some talk of providing engineers for the construction of the cupola, he quickly betook himself again to Rome, rightly foreseeing that he would be more appreciated there than if he remained in Florence. When in his absence the architects and engineers met, they stood confounded, without power to proceed, for they could not conceive of a scaffolding strong enough to carry the whole weight of the cupola till it should be completed. Then was Filippo sent for, and he returned willingly; and when the authorities were assembled, he spoke at great length. Practically he said, "The work is not yet mine, how, then, can I recommend what to do?" Then he spoke diffidently of himself and of his powers, and advised that a great meeting of architects from all parts of the world should be held in Florence to advise on the matter, and that whosoever should produce the best scheme should be entrusted with the work. With this proposal the authorities were well pleased, and they called a great meeting of architects from all lands with which they held communion. Meanwhile, as architects had to be summoned from afar, they proposed that Filippo should prepare a model, but unwilling to expose his mind further in the matter, he again, after much entreaty to remain, left Florence for Rome.

In the year 1420, when Filippo was about 43 years old, the great meeting was held, and being in audience, many opinions were offered. One proposed to raise a mound of earth mixed with small coins, upon which the cupola should be built, and thereafter that the people should remove the soil for the value of the coins buried therein. Filippo alone declared that the dome could be raised very easily, and without any framework whatever. Whereupon he was laughed at, and told he was mad. But Filippo argued the matter, and pleaded for a double dome, upon which he was once more dismissed, and refusing to leave, he was carried out by the servants of the place. Filippo's dauntless spirit refused to acknowledge defeat, and what he could not effect before the tribunal, he attempted with individual citizens, and so wrought upon them that the judges, having regained courage, now began to listen to what he had to say. Still Filippo would not expose his model, but proposed instead, to all, that he who could make an egg to stand upright on a piece of smooth marble, should be appointed to build the cupola. When none could make it stand, Filippo took it daintily into his hand, gave the end of it a blow upon the marble and thus made it stand upright. Beholding this, all loudly protested that they could have done the same, but Filippo laughing, replied that they might also know how to construct the cupola, if they could see his model and design. After much further delay, and he having in the meanwhile built several small cupolas, without scaffolding, Filippo was charged with the work, but even then his appointment was accompanied by many restrictions. A colleague was by-and-by proposed, and Lorenzo Ghiberti, the man for whom Filippo under similar circumstances had so generously spoken, was associated with him, and at a stipend equal to his own. Meanwhile Filippo caused a complete model to be constructed secretly, which when Lorenzo heard of he desired to see; but being refused, he became angry, and, that he might not appear to be receiving his stipend for nothing he commenced a model of his own. Their relationship according now became more strained and unsatisfactory than ever, and this vexatious warfare between the two men continued till 1426, Lorenzo's friends meanwhile claiming for him credit equally with Filippo in the raising of the cupola. The building had now advanced to a certain stage, and two things required to be provided—certain scaffolding, and an arrangement of chains for binding the base of the cupola together. Nothing apparently being directed regarding either of these requirements, the work practically came to a stand-still, and at last one morning Filippo did not appear.

Lorenzo, upon being asked for instructions, replied, he would not do anything apart from Filippo. Now Filippo was in bed, apparently very ill, and when the workmen in desperation appealed to him in his sick chamber he would only say:—"You have Lorenzo, let him direct you." At last the wardens in their dignity also visited the sick man and repeated the refrain of the workmen, "Lorenzo will not do anything without you." Whereunto Filippo shrewdly made answer, "but I could do it well enough without Lorenzo." This significant reply sufficed for the time, and Filippo at once recovered. Still, however, Lorenzo had influence and retained power, and Filippo had to seek other means of proving his incapacity. He therefore made this proposal. The stipend, he said, is equally divided, now let the work also be divided. Two things still require to be done, the chain-work and the scaffolding. Let Lorenzo choose one of these works, and I will take the other. Lorenzo selected, failed, and was dismissed, with the result that Filippo was at last fully approved of. He received a life-appointment of the work and a gift of money. He was henceforth held in high renown, having achieved the aforetime impossible; and by his genius, and self-control having overcome the malevolence of his enemies, their jealousies and timid fears, he had given to Florence her great red heart, which, with the old baptistery and Giotto's campanile, fairer than any white lily of the proud Florentine arms, will for ever form a triplet of stars, famous in the firmament of art. We have glanced at the training and life of one of the men who achieved the crowning glory of one of these great works. We have seen that in his day, as in our own, were Town Councils and Board of Works. Humanity has much the same of weakness and generosity then as now, and how sore is the travail of an idea great beyond the reach of lesser minds, we have seen, and how long a time it is before its altitude is scaled. It is the old story of the coat of many colours in a later age; the dreamer of dreams, the seer of visions—shall my sheaf make obeisance to thee? the futile imprisonment of the pit striving to retard the lofty reach of genius.

Are we any nearer an understanding of our question, What is architecture? Look again at this Florentine cathedral. Here is the spirit in which the rulers approached it. "The Florentine Republic, soaring ever above the conception of the most competent judges, desires that an edifice should be constructed so magnificent in its height and beauty that it shall surpass everything of the kind produced in the time of their greatest power by the Greeks and Romans." Florence was entering now upon the most brilliant period of her career. Growing rapidly in power and political influence, she was also, by the fruits of a successful commerce, preparing the soil for those seeds which were to blossom forth in that famous school of art and intellect, whose name was divided between the province and the city which gave it birth. Dante was living. Cimabue's picture had already been carried in triumph through her streets, and in a few years more Arnolfo would be rearing slowly those mighty walls in the Piazza della Signoria, henceforth to be the new centre of the city's municipal life. But one street distant, and under the same hand the Duomo itself was growing fair in brick and marble, dwarfing in size the old baptistery in front, but in recompense clothing it with marble and gold. A few years later, and by the Duomo's side was conceived that fair Campanile, twin birth of sea-foam and rainbow, dreamed in the brain of Giotto, and by him and his disciples hewn out of all things precious and beautiful. Thus with many a noble palace and exquisite church rose the "Fair city" in her Mediæval grace and splendour, and when the old order changed, "yielding place to the new," with it came the majesty of Brunelleschi's great red-robed dome, "a poem and a prayer in one." A century later as Michelangelo passed by on his way to Rome to labour at St. Peter's, he paused, and looking up at the calm beauty and dignity of its lines, thinking of his own more collossal dome yet to be, he said: "I shall make a sister dome, larger still, but not more beautiful." Reverend and noble words truly, and such as one great man may say of another. And Masaccio's epitaph is no less true of Filippo Brunelleschi:

> "He who taught
> All others—Michelangelo—I taught;
> He deigned to learn of me. . . ."

Surely now, having communed with these great men, we may have at least seen some faint glimmerings of what architecture is; and if we thereby fail, like many of them, to achieve not joy but wealth, let us remember what was said of Schiller, who, at the "partition of the earth, finding himself at the end of the general scramble without a single morsel of plunder, appealed passionately to Jove, who, pitying him, replied: 'The strong and the cunning have seized upon the inheritance of the world, whilst thou went star-gazing and rhyming; not one single acre remains wherewith I can endow thee; but, in revenge, if thou art disposed to visit me in my own heaven, come when thou wilt; it is always open to thee.'"

ARCHITECTURAL SOCIETIES.

MANCHESTER SOCIETY OF ARCHITECTS.—At a sessional papers meeting held on the 7th inst. the President, Mr. John Holden, in the chair, Mr. J. J. Thomas, of Kendal, read a paper on "Westmoreland Slates: their Geology, Chemistry, and Architectural Value." After giving statistics, showing that in 1894, 15,000 men were employed in the slate quarries of Great Britain and Ireland, that they produced 461,673 tons of slates, amounting in value to 1,171,366*l.*, out of which total 940,553*l.* worth were used in this country, the remainder being exported to foreign countries, he treated the geological position and extent of the slate-producing area of the Lake district, the chemical composition of slates, and the action upon them of impure atmospheres and various degrees of temperature; and the general description of Westmoreland slate quarrying, the method of preparing the slates, cleavage, and architectural value. The paper was illustrated by numerous lime-light views.

THE GLASGOW ARCHITECTURAL ASSOCIATION. At the ordinary monthly meeting held in the rooms on Tuesday, Mr. A. N. Paterson, M.A., in the chair, Mr. George Hill, architect, read a paper entitled "An Architectural Aim." Mr. Hill, after drawing attention to the great variety of manner of expression prevailing in the work not only of architects in general but of individual architects at the present day, and the desirableness of a greater uniformity of aim in this direction, sought by striking a comparison between the, in many respects, parallel studies of literature and architecture, and taking guidance from the more clearly defined and more generally accepted criterion which holds sway in the former, to distinguish amidst the Babel of architectural expression which is characteristic of the present, what is that which is peculiarly Scottish, and how Scotland should express herself to-day in a manner which shall be fit for the present, and be the climax of all that has been in the past. A discussion followed, and Mr. Hill was awarded the usual vote of thanks. An exceedingly interesting exhibition of photographs of Scotch domestic architecture, lent by Mr. A. N. Paterson, were shown in the hall, and will remain on exhibition for a fortnight.

ENGINEERING SOCIETIES.

CIVIL AND MECHANICAL ENGINEERS' SOCIETY.—At the meeting of the Civil and Mechanical Engineers' Society on the 2nd inst. a paper was read on the important subject of "Lock-nuts and Nut-locking Devices," by Mr. E. H. G. Brewster, Mr. William C. Street being in the chair. The paper first gave a history of screws and screw-bolts, and dealt with the important part that was played by these pieces of mechanism. The author defined the qualifications of a good lock-nut, the necessity for which was amply shown by the many accidents that had arisen both on railways, steamships, and in machinery generally, from the ordinary nut getting loose. The various attempts that have been made to attain a good lock-nut, or a good nut-locking device, were entered into, and illustrated by references to some of the earlier and latest forms. The principles that were adopted by the various inventors of lock-nuts were also entered into, and several new forms of these by different makers were exhibited to the meeting. There were a large number of members and visitors present, and many took part in the discussion that followed the reading of the paper. A vote of thanks to the author closed the meeting.

Illustrations.

DESIGN FOR A TOWN CHURCH:

R.A. GOLD MEDAL, 1895.

THIS design is the outcome of a desire felt by the designer to carry out in their broadest application the conditions set to the competitors for the gold medal; that is, in working out the design not to content himself merely with embodying in it the forms and dimensions specified, but further to clothe the whole with such a treatment and style of detail, down to the smallest moulding, as would not be incongruous with the main lines of the building as affected by the conditions set. The conditions were, that the plan should be in the form of a Greek Cross, that each arm of the cross should measure in width 65 ft. clear between walls, and that the centre part should be covered by a dome or vault. These conditions clearly pointed to a building unlike any in existence in England as to its general arrangement, and which therefore should be treated in a manner foreign to England. The choice therefore lay between some foreign style such as Byzantine, or some treatment unlike any known style, but which would be the logical outcome of the application of the above conditions. Under the circumstances the choice of the latter was to be preferred, seeing that the gold medal and Travelling Studentship is given by the Royal Academy not to reward knowledge of foreign styles already acquired, but to enable the winner to travel with the purpose of acquiring that knowledge. The plan therefore is, as specified, a Greek Cross, pure and simple, not a Latin Cross with the west arm cut down, nor a square, nor an octagon, but a cross of which each arm is equal in size and similar in treatment. Arcades and aisles are evidently not contemplated in the conditions, and a single vault 65 ft. square covering the centre part of the cross would be vulgar and would destroy the scale of the entire interior; a central dome is therefore necessary, and aisles being absent it must stand on four legs. Hence there must be pendentives or arches curved on plan. The former are features which would not be in keeping with the geometric severity of the plan. Hence the centre part is covered by a dome standing on four piers, 65 ft. apart, spanned by four arches curved on plan on the side facing the arch opposite, to receive the drum of the dome. In forming a Greek cross by adding to each side of this square the most obvious method of proceeding is to add an apse to each side, making its centre coincide with the centre of the arch against which it abuts. Each apse, to be in harmony with the dome, being itself half a dome, must stand on two piers. On plan therefore there are twelve masses of masonry, eight for the four apses and four for the dome; these are carried up as towers to gain strength by superimposed weight, and the result is a church consisting of twelve towers connected by arches carrying four apses and a central dome. To treat the simple skeleton of a church such as this in a suitable manner ought not to be a difficult matter. Whether the manner chosen in this case is an agreeable one depends entirely on individual taste, and is therefore outside the range of argument. Anyhow, an experiment of this nature is only justified by its success.

PIETER RODECK.

THE NEW MUNICIPAL BUILDINGS, KING'S LYNN.

THE general view herewith illustrated is one of the set of drawings by Messrs. Philip Tree and Ivor Price that obtained the first premium in the competition recently decided for providing some much-needed additional municipal accommodation for the town of Lynn. The plans clearly show the nature of the accommodation. It is proposed to execute the four grotesques at the angles of turret, and the finials and gates not shown in the illustration of hammered aluminium polished. The large archway to the right of the new work is the approach to the proposed new Fire Brigade Station in the rear.

One of the conditions of the competition was that the new buildings should, as far as possible, accord in outline and feeling with the work of earlier centuries to which they will be attached, and with which they are to range. The whole line of building as it will be when completed is given in the view, and the difficult task of assimilating the new work with the old has been successfully carried out.

This older work consists of the hall of the Trinity Guild, and the front of a porch, containing the staircase to it. The Records of the Guild of the Holy Trinity of Lynn are preserved in the muniment room of the Corporation, which is exceedingly rich in manuscripts.

The hall was commenced about the Feast of the Holy Trinity in the ninth year of Henry V., 1421, and was two years in building. The old hall was destroyed by fire on January 23, 1421.* The oak of the timber roof came from Bacton, in Suffolk, and William Kerver, of Castleacre, did the work. His name, "Kerver," somewhat disguises his trade of "carver"—the substitution of "e" for "a" being still used in East Anglia. The present Guildhall of Lynn has been shortened at its northern end to form a continuation of the Georgian ball-room behind it, but the crypt remains entire. The front of the hall is built in the square diaper pattern of stone and flint alternately, which is such a common form of work in Norfolk. In this front is a fifteenth-century window, and under it what are now two pointed windows were the doors entering into the crypt, and now blocked halfway up. Beside it and between the hall and the new buildings is the porch of early Renaissance, probably Elizabethan.

The plans are given on the lithograph showing the view of the building. The architects are Messrs. Philip Tree & Ivor Price, who, it will be remembered, recently took so chivalrous a part in endeavouring to secure for another firm of architects their rights in the Durham competition, in which Messrs. Tree & Price had themselves been competitors. The view of the building is from a sketch by one of the architects.

MAGAZINES AND REVIEWS.†

THE *Art Journal* contains an article by Mr. Frederick Wedmore on "The Revival of Lithography" in what is more especially artists' work—figure-drawing and landscape. His views on the subject are sound, and the illustrations, by Mr. C. H. Shannon, Mr. Holloway, Mr. Bate, and others are good examples. Mr. Montbard's article on "The First Cataract" is accompanied by some excellent drawings of scenery and figures. An article on domestic glass-making in London, and its processes, is contributed by Mr. Gleeson White.

The *Artist* devotes an article to the first exhibition of the Arts and Crafts in Ireland, with a good many illustrations which show that there was some good decorative work of various kinds to be seen there.

Among the contents of the *Antiquary* is an illustrated article on "Necklaces in Relation to Pre-historic Commerce." A page of illustrations is given, which are rather curious and interesting. "Irish Ornamental Iron-work in the Eighteenth Century" is the subject of an article by Mr. Alleyne Walter, the examples being taken from the streets of Dublin. One or two of the examples of wrought-iron scroll-work are very interesting, and have a special character of their own.

The most interesting article to architects in the "Reliquary and Illustrated Archæologist" is that on "Thornton Abbey, Lincolnshire," by Mr. C. C. Hodges, which includes a plan of the foundations and of the existing portions, and several illustrations of the latter from photographs, giving a good account of a Mediæval remnant which is not so well known as it should be.

In the *Engineering Magazine* Mr. Barr Ferree writes on "The Value of Good Architecture in Cities," comparing American and European taste and methods. Mr. Ferree dwells rightly on the immense value to Paris of her series of large monumental buildings, which in a very material way, by their number and their splendour, contribute to make Paris the world-capital which it is. Mr. Ferree thinks there is much to be done in this direction in American cities, before they can claim any comparison architecturally with the great cities of the European continent. To London he does not refer. We gather from his article that most of what has been done in the way of good architecture in American cities has been owing to individuals rather than to the Government or to public bodies. The same number contains an article on "The Location and Construction of Dams," by Mr. J. B. Johnson.

Macmillan contains an article under the title "A Great English Chronicle," speaking ably and eloquently in regard to the architectural interest and value (among other values) of the average English domestic architecture of the eighteenth and early part of the present century, contrasting it with the pretentiousness and want of repose of much modern building of the same class, especially in rural and suburban districts and country towns. The following passage speaks eloquently of the results of what the writer calls "our demon of prosperity" in the extension of towns into rural suburbs:—

"A slight study of his modes of action show them to be generally modes of destruction pure and simple, and modes of bad or inharmonious building; or of the two modes combined. This latter form of action is sufficiently familar to us, being chiefly seen in the suburbs of large cities, where a good many, if not most of us, have to live. How complete in many cases this destructive and reconstructive process is, obliterating all former landmarks, many know to their cost; and also in these latter times how rapidly it is carried on. The semi-rural dwellings of earlier generations with their ampler gardens, shrubberies and lawns, seem to be the most tempting prey of the devourer, who has also an especially keen tooth for historic houses and their grounds. The rapidity with which a pleasant domain of this latter kind is transmuted into close lines of tenements and shops, or minute villas of ludicrously uniform pattern, can be paralleled only by the speed with which the jungle swallowed up the wicked native village in Mr. Kipling's tale. Only here it is not 'letting in the jungle,' but letting in London, Manchester, or Birmingham. But although this phenomenon has become so familiar that we now hardly notice it, and commonly accept it as the inevitable result of commercial prosperity, our demon is the very genius of increase; its effect, with but few exceptions, is the degradation of architecture."

The *Nineteenth Century* includes a violently-written article by "Ouida" on "The Ugliness of Modern Life," which contains no doubt a good deal that is true, expressed in an exaggerated and vulgar style; and on the whole we do not know of any more disagreeable instance of the ugliness of modern life than the style of Ouida's own writing.

In *Le Monde Moderne* M. Robida (an architect we believe) has perpetrated an exceedingly wicked and amusing joke at the expense of the Paris Exhibition of 1900. As there is to be a great competition, or series of competitions, for the buildings for the Exhibition, M. Robida has put forward his own *petit projet*, illustrated by a number of sketches consisting of a kind of caricature in advance of what may be the result. He gives the utilisation of the Palais de l'Industrie "légèrement modifié, with a kind of pagoda on the top and a colossal Egyptian figure on each side of the entrance; the bridge on the axis of the Esplanade des Invalides, a restoration of a corner of old Paris, and a whole series of other archæological restorations as proposed to be grouped together for the Exhibition. Architects should not omit to look at this piece of very clever architectural satire.

In the *New Review* is a review of Mr. Stevenson's "Art of Velasquez," under the title "A Sane Critic," which, as dealing with art criticism, is a sign of the times. "Ruskinism," says the writer, "is solemnly, irremediably dead. If an educated man, placed in a picture gallery, were found chattering to-day of the holiness of toil and the dignity of prayer; if, instead of appealing to the sense of sight, he were to demand the exercise of every other sense, he would claim only the attention of the hypocrite." Some of us have found that out a good while ago; but we thought the end of Ruskin as a teacher was not very far off, and probably we shall meet with other utterances of the same kind before very long.

Scribner devotes an article to a decorative painting by Mr. Robert Blum, recently executed in the room of the Mendelssohn Glee Club of New York, which from the illustrations given seems to be worth special comment. Graceful as the figure designs are, however, there is rather a want of repose of action and line in them, for decorative work. An illustrated article is also devoted to the new building of the Boston Public Library, which has good points, but we are inclined to think that the five decorative paintings which have been executed for it will prove the chief beauty of the building. The view of the interior court-yard looks rather too much like a copy of Bologuese Renaissance.

Harper contains an article on the underground railways of London, by Mrs. Pennell, illustrated by Mr. Pennell. The article is, as may be supposed, entirely popular and in no sense technical.

In the *Century* an article by Mr. Castaigne, "a Kaleidoscope of Rome," contains pictures and descriptions of modern Rome, together with an

* The year ended March 25. The new hall was commenced the April after the fire.

† The object of these notes is to point out anything in the contents of the current magazines which is of special interest to our readers, with occasional brief criticisms on the views expressed in such articles. When a magazine which has been sent to us is not noticed, it is because that number contains nothing that it is within our province to comment upon.

imaginary restoration of the Forum under the Cæsars—the population, rather than the buildings. "A Feast-day on the Rhône" is an interesting and well-illustrated article.

In *Blackwood* an article on "Château-hunting in France" by Mrs. Courtenay Bodley is very pictuesquely written, by one who loves old châteaus and has an eye to their beauty and that of their surroundings.

Knowledge gives its promised coloured illustration of the planet Jupiter, which is a little disappointing. The number includes an article on Italian medals, with a page of illustrations, and also commences a series of articles on "Waves" and their movements and phenomena, scientifically studied, which is likely to be of considerable interest.

The Quarry is a small new journal of the Stone, Marble, Slate, Lime, and Cement Trades, which appears to be conducted with technical knowledge of the subjects treated, and will probably prove useful. The first number commences a series of articles on Stone-working machinery, with illustrations.

In *Good Words* Dr. Bridge writes a picturesque article on the Abbey and what has taken place in it as regarded "From the Organ-loft," with illustrations by Mr. Herbert Railton.

In the *Gentleman's Magazine* Mr. W. Connor Sydney writes a good historical article, in a light way, on "Furness Abbey and its Story."

The *Minster* is a magazine containing a good many clever sketches, and that is all that can be said of it. Unfortunately the theory of magazines seems to be now that as long as they are well illustrated it matters little what sort of trash is written in them.

The *Windsor Magazine* contains an article on "the Telegraph Systems of the World," not technical, but containing some information of interest to general readers.

London Society devotes an article to "The Little City of Peel" in the Isle of Man, of which, as the writer says, few of us know anything, in spite of the near neighbourhood of the island.

The twenty-eighth number of *Pictures from Punch* continues to be as interesting as its predecessors, and contains some very fine work of Keene and Leech.

THE SANITARY INSPECTORS' ASSOCIATION.

AT the first meeting of the year of this Association, which took place on Saturday last at Carpenters' Hall, London Wall, Sir B. W. Richardson, the President, delivered his annual address. In the course of the formal business, which preceded the address, the names of fifty-six proposed new members were submitted, twenty-nine from the Western district, and a large number from Northamptonshire and Yorkshire. They were elected *en bloc*, the total increase in the membership during the last three months being thus brought up to 132.

The President began his address by congratulating the Association on its remarkable progress, which he hoped would continue until its influence became great enough to affect the course of sanitary legislation. He also congratulated the Society on the excellent journal by which it was now represented. The origin of the Association was a spontaneous development arising not out of any regular movement on the part of either the public or the medical profession, but as a necessity arising out of the wants of the world at one of the epochs in its evolution. A few doctors under the leadership of Mr. Tucker, Dr. Babington, Dr. Addison, and others, had formed the Epidemiological Society in 1850, and they had later on secured the adhesion of Sir Benjamin Hall and Mr. (afterwards Sir Edwin) Chadwick, and aided by the incidents of the Crimean struggle, the Legislature was induced to take up the subject, and eventually to pass a Public Health Act. There were still no Sanitary Inspectors, but the subordinate officers appointed under the Act as Inspectors of Nuisances were found by the Medical Officers most useful. People began to look upon them as having definite duties, and Medical Officers recognising their need of subordinate Health Officers to act under their directions, Sanitary Inspectors were appointed in all important districts. In the process of evolution that Society had been formed, and the great sanitary reformer (Sir Edwin Chadwick), foreseeing the future importance of the Association, had become their President, and had gladly devoted himself to their interests to the end of his days. He said from the first that it would become a great and important society, and his prescience had that night been justified when fifty-six new members at once had been added to its ranks. Its members discharged their duties so well that the public appreciated them. They were not separated from the people as the medical officers were, but were in close touch with them, and knew their ways and their wants. They had social and private duties. Their duties as sanitary officers were important, but they had also other duties as individuals. They had learned a great deal, and might become centres of sanitary knowledge, not precisely like the doctors, but still centres of usefulness and authorities in sanitary matters each in his own locality. Among the things they could teach was cleanliness of person. To be always clean was to be always healthy. They should teach the importance of cleanliness in clothes. There were millions of people who thought they could live always in the same clothes. What was worn on the body ought to be frequently removed. They should be advocates of the bath. They were voters and ratepayers, and their voices should always be raised in favour of cleanliness. During the last fifty years many improvements had taken place. Once London was the very seat of misery. Dr. Hector once proved that the cottage laundries were the centres of scarlet fever, and other diseases, including cholera, were most readily spread by the steam. There had been some improvement in this matter, but there was still only too much need of further improvement, and they should support with their votes men who were in favour of improving the public laundry system. Laundries should be cheap as well as plentiful. It should not be possible for any man to say he was too poor to provide himself regularly with clean clothes. In concluding his lecture, Sir B. W. Richardson suggested a line of research which Sanitary Inspectors were in a position to pursue, perhaps more effectively than any other members of the community—the effect upon health of various occupations, of long and short hours of work and the sanitary advantages of various forms of recreation. We were not yet learned in such matters, and legislators and scientists would owe a debt of gratitude to those who carried out such investigations, which, quite apart from their public tasks, Sanitary Inspectors might be able to do better than anybody. By simply putting down the facts as they were they could present tables such as had never been known before.

In the absence of Mr. Thomas, through illness, Mr. Fairchild was called to the chair, and a vote of thanks, proposed and supported by Mr. Griggs (Fulham), Mr. Jones (Lambeth), Mr. Middleweek (Kensington), Mr. Alexander (Shoreditch), and Mr. Fairchild was submitted. Mr. Middleweek, said that in the excellent Public Baths and Washhouses at Kensington they had from 50,000 to 60,000 women, using the washhouses for their clothes, and about 120,000 persons using the baths, but he was sorry to say the public baths and washhouses had not been used so much as one had been led to expect. They were only utilised by one-seventh of the women. Such establishments ought to be set up in every parish. The vote was carried by acclamation, and briefly acknowledged by Sir B. W. Richardson.

Correspondence.

To the Editor of THE BUILDER.

THE IONIC SPIRAL.

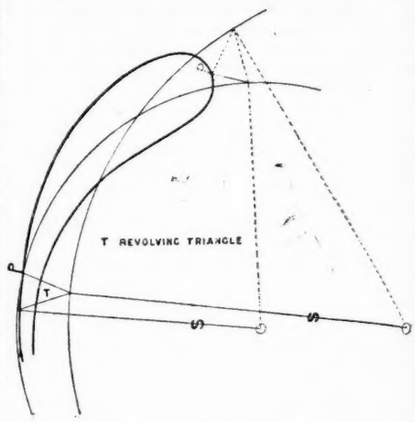
SIR,—In the discussion on Dr. Richter's paper the practical side of Greek work seems hardly to have had the weight given to it which it deserves.

Every Greek spiral bears upon it the evidence of the means by which it was produced. In the centre of the spiral is a hole which varies very much in character but is present in one form or another in each volute.

In the Minerva Priene example the hole is sufficiently deep to hold firmly a wooden cylinder on the end of which a cone has been turned; a string wound round this cone with a pencil at the end will describe in its unwinding the desired curve. I had the pleasure of putting into the hands of the late Sir C. Newton such an instrument and with it he followed the line of the volute.

In the Ephesus example the hole is not deep enough to hold the cone firmly and it must have been kept steady by support from above.

In the Nikė Apteros capital the cone must have been fixed point downwards, and there is a small hole in the centre to receive it. This arrangement is shown in the accompanying sketch.



Probable method of producing the curves of Parthenon antefix: two circles acting together on a revolving triangle.

In the Mycenæ spiral this central hole is found; it is shallow, but sufficient for its purpose, thus pointing to its being the true prototype of the Ionic volute.

Mr. R. Inwards has shown that Egyptian curves are capable of mechanical reproduction (*Builder*, April 1, 1893), and a similar investigation of the lotus curve might show that it was produced by one of the instruments afterwards used and perfected by the Greeks. Just as the anthemion of the Assyrian sacred tree, and of the Parthenon antefix have a common origin in the revolving triangle (see sketch).

DANIEL WOOD.

LUDGATE IN THE TIME OF HENRY VIII.

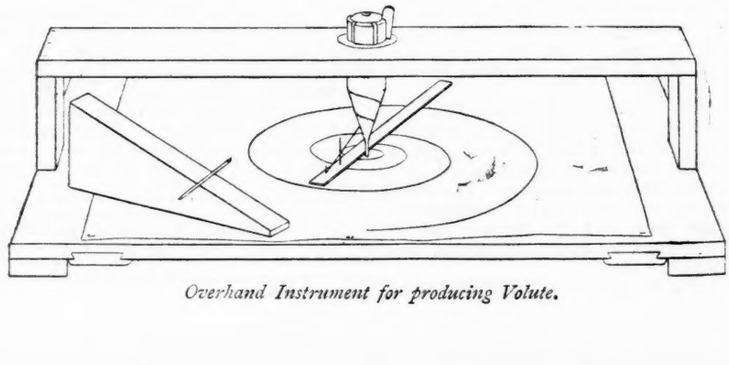
SIR,—The following reference to Winchester Palace, Southwark, is not mentioned by Mr. Brewer, though probably it is well known to him; it occurs in "Views in London and its Vicinity: being 48 copperplates engraved by George Cook, published in 1834." One of the engravings has as its title "Remains of Winchester Palace, drawn by John Sell Cotman, 1828."

In the few lines of letterpress relating to it the drawing is stated to have been made subsequently to "a destructive fire which exposed this fragment of the palace; the ground has since been built over, so that this relic is not at present seen."

HENRY ROSE.

PETERBOROUGH CATHEDRAL.

SIR,—Pardon me for drawing attention to a slight misprint in the "Notes" which appeared in last number of the *Builder*, relative to the front of Peterborough Cathedral, where the name of the place from whence the marble shafts were obtained is printed "Aldwincle." The writer must surely have intended "Aldwalton," the site of the marble stone; a village on the Huntingdon side of the Nene, some five miles above Peterborough. This



Overhand Instrument for producing Volute.

belonged in Mediæval times to Peterborough monastery.

The marble is composed more of flat shells than that of Purbeck, which is small "whelks." It is consequently of lighter colour than Purbeck, and externally somewhat more durable. Of that from Aldwalton almost all the monumental figures of the abbots in Peterborough Cathedral are formed.

JAS. T. IRVINE.

THE BUILDERS' CLERKS' INSTITUTION OF GREAT BRITAIN.

SIR,—As I have been recently inundated with applications from all parts of the country for information with respect to the above Institution, will you be good enough to inform your numerous readers that the project has by no means fallen through, the executive committee being actively engaged in framing the rules and completing the details of the scheme, further particulars of which I hope to be in a position to issue shortly.

J. PEARSE BOWDITCH,
Secretary.

PITCH-PINE.

SIR,—Referring to your "Student's Column," p. 20, under the sub-heading "Pitch-pine," the writer perpetuates the error that is constantly made as to the tree from which, what in England is known as pitch-pine, is produced. He says that our pitch-pine is the product of the *Pinus rigida*, but this is a light, soft, coarse-grained wood, known, truly, in some parts of the United States as pitch-pine, but is a wood which rarely rises to the dignity of an article of export from thence. The pitch-pine imported into England is of the *Pinus Australis*, otherwise known as long-leaved pine, Southern pine, Georgia pine. Stevenson (a timber merchant, and a considerable writer on timber and wood), says, "The question of its durability is unsettled, there are those who adhere to the use of Memel and Dantzic fir, and will not admit the pitch-pine (*Pinus Australis*), whilst there are others who freely use it on all occasions." Further, he mentions the "tendency it possesses to shrink when in work."

ARTHUR HARSTON.

PUGIN: AN ENQUIRY.

SIR,—Among the list of works attributed to Augustus W. N. Pugin in Feney's "Recollections" and in other authorities are the Church of St. Mary, Winswold (or Wymeswold), churches at Sheepsteen and Breeswood, and a chancel at Winick.

Winick I take to be Winwick—there are three parishes so named in Great Britain; but where are Sheepsteen (*alias* Sheepshear) and Breeswood, and where is Winswold? Not in the Gazeteer and not in the Postal Guide.

Can anyone enlighten me? The Winick chancel is said to be Pugin's "best work."

PAUL WATERHOUSE.

"CONCRETE AND IRON CONSTRUCTION."—We have in type a letter from Mr. Edwards in reply to Mr. Ransome's letter in our last issue, which is postponed for want of space.

OBITUARY.

M. ALFRED JACQUEMART.—This eminent sculptor has just died, at the age of seventy-two. He commenced life by studying painting under Delaroche, and afterwards became a pupil of the sculptor Klagmann. He was the author of an equestrian statue of Mehemet Ali, another of Ibrahim Pacha, and various works in animal sculpture. He was also the artist of the equestrian statue of Louis XII. which is at the Hotel de Ville of Compiègne, and of the winged dragons in bronze which decorate the St. Michel fountain in Paris.

GENERAL BUILDING NEWS.

THE BUILDING TRADE IN LEEDS.—Though not quite so good as last year, says the *Leeds Mercury*, 1895 has been a fair time for those engaged in the building trade. It has turned out much better than was expected at the beginning. An interesting feature of the work of the past twelve months has been the movement in the direction of the much-needed improvement of Briggate. The leading thoroughfare of one of the principal cities in the United Kingdom is still very far from a thing of beauty. But it is gratifying to know that during the year some of the older premises have been either rebuilt or renovated in such a way as to materially improve the appearance of the street. The bulk of this work, however, is yet to be done. And, as people in the building trade naturally point out, something in the nature of a wholesale sweeping away of existing dilapidated property would prove not only a benefit to them, but likewise to the owners and occupiers concerned. The conversion of Park-row into a commercial street of the first rank has gone on apace. The unsightly, plain brick blocks have almost entirely given way to stone buildings. The erection of cottage property has not been very extensive, an impression existing that there are quite as many such houses as are needed in most districts for the present, though the destruction of old dwellings in various parts of the city has caused a certain demand. It is reported that about 700 cottages are to be built in the Hunslet neighbourhood. The development of Roundhay as a residential district for business men is likely to be rapid when once the electric cars commence to run through from and to the centre of the city. Among present projects are the proposed theatre and the suggested Palace of Varieties. The rebuilding of the "Buck Inn" will affect an improvement at the corner of Kirkgate; while the widening of Vicar-lane and the alterations to the Covered Market are important portions of the work of the City Corporation for the ensuing year. A desirable change has been made on the site of the burnt-out Central Market in Duncan-street, where some large shops are being erected, and where the building-line has been set back in such a way as to make a spacious curve leading to the Covered Market.

BOARD SCHOOLS, BISHOPSTOKE.—On the 3rd inst. the new Bishopstoke Board Schools were opened. The new schools have been erected by Mr. Walter, of Southampton, from the plans of Messrs Cancellor & Hill, of Winchester. The buildings, which was commenced last June, has been erected at a cost of 3,000*l*. They will provide accommodation for 300 children, apportioned about equally between the girls' and infants' school and class-rooms. Spacious cloak-rooms and improved lavatories have been provided. The whole of the play-ground has been levelled and surrounded by low brickwalls, with ornamental iron railings. The work has been carried out in red-brick, with tiled roof, the cloak-rooms having an ornamental parapet in moulded brick. The flooring of the school and class-rooms has been carried out with Goddard's wood-blocks, ventilation being provided by the use of Tobin's ventilators.

PUBLIC BATHS, BILSTON.—The Bilston Public Baths have just been re-opened after alteration and reconstruction. The premises, which are electrically lighted throughout, include a room containing the swimming-bath, which measures 54 ft. by 23 ft., and has a capacity of 35,000 gallons; five gentlemen's and two ladies' first-class private baths; and thirteen gentlemen's and four ladies' second-class baths. The machinery and electrical plant (supplied by the Universal Electric Lighting Power Company, Wolverhampton) are situated in the basement. The baths occupy a prominent position in Hall-street. Mr. C. L. N. Wilson, Surveyor to the Council, prepared the plans, and the contractors were Messrs. Morrell Brothers, of Bilston.

TECHNICAL SCHOOLS AT SOUTHAMPTON.—New technical schools have just been completed at Southampton from the designs of Mr. Blizard, architect. The schools include a carpenter's shop and a cookery class-room, which was originally intended for a blacksmith's shop. The demonstration-room is on the first-floor, and it is designed to be used in conjunction with the chemical laboratory above. The drawing class-room is divided from it by a partition. On the second-floor is the laboratory, and at the back of that is the modelling-room. In connexion with that is the master's room and other small rooms. Mr. F. Walters is the builder.

BUILDING TRADE IN LEICESTER.—The building trades at Leicester suffered seriously during the past year from the mania for strikes. The carpenters and joiners, the plumbers, and even the masons' labourers, were all "out" for more or less protracted periods. These were all the more regrettable from the fact that trade was good, and there was an abundance of work for all who chose to apply. Not a little of the improvement was due to the construction of the Manchester, Sheffield, and Lincolnshire Railway Company's extension to London, which has been making rapid progress, and entailing the construction of hundreds of houses to replace those demolished. The plans passed by the Corporation showed a very large increase. These included the formal sanction for the erection of 1,122 houses, 36 warehouses and factories, 25 new streets, 114 sheds, and 666 additions to existing structures, the aggregate reaching no less than 2,082.

BOARD SCHOOL, HORFIELD.—The new school erected by the Horfield School Board, in Bishop-road, was opened on the 3rd inst. The building is of the sixteenth-century style, the plans having been prepared by Mr. Gough. The accommodation provides for 600 children—an equal number of boys, girls, and infants. The building comprises large assembly-rooms for the boys and girls, and these apartments, by the removal of an intervening partition, can be converted into a room suitable for fairly large gatherings. There are eight class-rooms. There are also an infants'-room, a board-room, a cookery-room, and a caretaker's house.

CHURCH OF ST. HELENA, LUNDY ISLAND.—A new church is being erected on Lundy Island, from the designs of Mr. John Norton, of London. The sculpture work at the church will be carried out by Messrs. Harry Hems & Sons, of Exeter.

MISSION CHURCH, PAR, CORNWALL. — The foundation stone has just been laid of a mission church at Par. Designed by Mr. Edmund Sedding, of Plymouth, the new church, which occupies a prominent site on the main road, will be built of granite. It will be in the thirteenth-century style, with lancet windows on the north and south, a large wheel window at the west-end, and a five-lancet window 12 ft. wide at the east-end. The dressing will be of Polyphant stone and the roof covered with Delabole slates. The roof, of the usual Cornish narrow type with curved ribs, will have a span of about 30 ft. Mr. Philip Blowey, Plymouth, is the contractor for the building, which will accommodate 250 persons, and will cost about 1,000*l*.

NEW WARD AT THE CORBETT HOSPITAL, STOURBRIDGE.—A new men's ward has just been added to the Corbett Hospital at Stourbridge. The new ward, which is 33 ft. by 22 ft., is at the west-end of the hospital, and will be used as a men's ward, thus setting free a ward next to the women's ward at the other end of the building for the children. The work has been carried out by Mr. North, under the direction of Mr. T. Robinson, the architect.

EDINBURGH BUILDING TRADE IN 1895.—The activity manifested in the Edinburgh building trade in 1894 has been fully maintained during the year which has just come to a close. The prolonged winter, which extended to the third month of the year, naturally interferred to a considerable extent with operations, but since that time, trade has been remarkably brisk. Few works of first importance have been completed during the year, but among them may be included the Observatory on Blackford Hill, and the Royal Sick Children's Hospital. The M'Ewan Hall, which forms an annex to the new University, is structurally complete, but the internal decorations will not allow of the opening ceremony earlier than August next. The larger works which have been undertaken, and will for a long time give employment to a large number of hands, are of an entirely different character to those already mentioned. The North British Railway Company have completed their new station at Haymarket; but in the conversion of the Waverley Station, the widening of the railroad system east and west, with the consequent necessary construction of new tunnels and the rearing of a large hotel at the corner of Princes-street and the North Bridge, the company have set about a project which it will take some years to accomplish. Connected closely with the Waverley Station scheme is the rebuilding and widening of the North Bridge and the reconstruction of the Waverley Bridge. Morningside still appears to be the most popular suburb. Feuing has proceeded rapidly in the Bruntsfield district, on the Falconhall, Plewlands, and Braid estates, and on ground surrounding the Morningside Asylum. A new hall has been erected as an addition to St. Matthew's Church. Building of a similar kind, but to a smaller extent, has proceeded at Newington. The larger works here include an addition to a biscuit factory, and a new brewery. The western, northern, and eastern districts, which are more the resorts of the working-class population, have all provided a large amount of building work, either in the erection or enlargement of factories of various kinds or in the construction of dwellings. In the northern suburb the buildings include a new steam laundry, a new bakery, new confectionery works, and a new skating-rink and ice well. The Board school in Broughton-road has reached the roofing stage, and the bridge over the Water of Leith at Canonmills is undergoing a widening and improving process. In the eastern district of the city an extensive addition has been made to the juvenile department of Abbeyhill Board School. An experiment is made with a large block of workmen's dwellings on the balcony system, the whole being in charge of a resident caretaker.

CONGREGATIONAL CHURCH, DEBENHAM, SUFFOLK.—The Congregational Church at Debenham, has just been reopened after restoration. The work has been carried out from plans and specifications by Mr. A. W. Damant, of Debenham, and has been under the supervision of Mr. Jas. Bloomfield, of Ipswich.

LIVERPOOL COTTON EXCHANGE.—For the last six years the committee of the Cotton Association have been on the look-out for a suitable site for their "Indoor Market," and to assist them in their consideration of those which offered they secured the professional services of Mr. Francis Holme, architect, Liverpool, who was instructed to prepare plans showing how the Exchange could be placed in the centre of Brown's Buildings, and, after consideration by the committee, these plans were approved by the Cotton Association, and the final arrangements made with the owners of the building as to the requisite structural alterations. These were carried out under the supervision of Mr. J. F. Doyle, architect, of Liverpool, who also designed such of the internal finishings, &c., as did not form part of the decorative work done by the Cotton Association from the designs of their own architect. The Exchange has two frontages, one to Exchange-street West, and one to Rumford-street, with entrances in each, the principal one being in Exchange-street. There are also two side-entrances (in the north and south walls), from the basement passages of Brown's Buildings, the former adjoining the hydraulic elevator, recently put into the staircase well at that point, and rising to the top floors of the offices. The Great-room is 120 ft. long, and of an average width of about 50 ft., and is divided into a centre and two side bays by lines of columns and beams which support the walls, &c., of the floors overhead. The floor at the east end of the Exchange room, where the main entrance doors are situated, is raised to the same level as Exchange-street, and

forms a spacious anteroom. From the room a flight of steps leads down to the main floor of the Exchange, which is on a level with Rumford-street, where another entrance is provided. Below the ante-room are the Cable Company's offices, communicating direct with the large room. There is a lavatory on this floor for the use of members, with tile-lined walls, marble basin tops, mosaic tile floors, and hot and cold water service. Access to this floor is gained by two staircases from the sides of the Great-room. At the west end of the Exchange is the board-room, with an ante-room adjoining the Rumford-street entrance, which has a wood screen, and mosaic-tile floor, &c. The secretary's office is approached by a small anteroom at this point, and a staircase leads to the two offices for clerks on the floor above, where there is an entrance-door from the office corridor. A staircase at the other side of the Exchange-room gives access to the large gallery. The only other apartment is the telephone-room. The columns and pilasters of the Great-room are encased in cream-coloured Doulton ware, while the walls, for a height of 14 ft. in the Great-room, and for a less height in the anteroom, are lined with Doulton ware of various colours. The wall-surface is broken by pilasters with entablature, caps, &c. The lighting of the room from the two central areas is by means of domed and panelled skylights, further increased by the ranges of windows in the east and west walls, the heads of the latter being filled with stained glass. The flat portions of the ceilings of the Great room and also of the gallery are decorated with enriched plaster work, of special design, with panels illustrating the cotton trade in its various branches, and scrolls and enrichments modelled from the cotton plant. Friezes between the caps of the pilasters complete this part of the decoration. All the woodwork of doors, porches, staircases, balustades, &c., is of dark polished mahogany, and the floors are laid with solid teak-wood blocks. A feature of the Exchange is the Cotton Ring, in the centre of the floor, with a circular handrail and a sunk portion, with two steps for the greater convenience of members. The warming is partly by hot-water "radiators" placed at the east-end of the Exchange, and partly by "Shorland's" patent grates in the large fireplaces. Four electric "Blackman" fans are placed in the upper parts of the dome lights. Messrs. Handcock and Dykes, consulting engineers, of London, have planned and carried out under their supervision in conjunction with the architect, Mr. Francis Holme, the electric lighting of the building. Bearing in mind the requirements of the building, it was decided to run all the cables in wrought-iron pipes, buried in the walls and floor, special cast-iron drawboxes being inserted. The hall and offices are lit by means of about 330 lights of varying candle-power, the lighting of the main hall taking the form of five electroliers hanging from the ceiling, and a number of three-light brackets disposed in the panels and on the pilasters round the walls. There is also a line of small light carried round the top of, and partly concealed in, the Doulton ware cornice with the special view to obtaining ample illumination of the enriched ceiling. The wiring and iron-pipe work has been carried out by Messrs. Hayward, Tyler, & Co., of London and Luton (under the supervision of their engineer, Mr. V. Zingler). Messrs. Verity & Sons, of London and Birmingham, have supplied the electroliers and other electric fittings, and also the English cut-glass vases over the lights. The decoration of the reading and writing gallery has been executed by Mr. L. Doudyan, Italian artist. The general contractors for the structural alterations were Messrs. W. Tomkinson & Sons, of Liverpool. The sub-contractors were:—Plasterers, Messrs. J. Tanner & Sons; plumber, Mr. S. R. Henshaw; and iron-founders, the Horseley Iron Co. The whole of the wall and column faïence is from Messrs. Doulton & Co., of Lambeth. The fibrous plaster ceilings were executed by Messrs. Goodall & Co.; the stained glass, in gallery windows, by Messrs. Evans & Sons; the heating-boiler and radiator by Messrs. James Cooper & Sons; and the mosaic tile floors, &c., by Mr. Swift.

CARDIFF MUSEUM.—At the monthly meeting of the Cardiff Museum General Committee, held at the Town Hall on the 6th inst., the chief business was the consideration of plans for the new museum buildings, which had been submitted by Mr. Edwin Seward, architect to the building sub-committee, and referred by the sub-committee to the general committee. Several alterations were presented in the form of recommendations to the general committee. These recommendations, which mainly dealt with details of the proposed building, were discussed and accepted, and the architect (Mr. Seward) was asked to draw up an estimated cost of the buildings to be erected, according to the plans produced, and it was resolved to refer such estimate, with the plans, back to the museum committee for further consideration.

SANITARY AND ENGINEERING NEWS.

REGISTERING WATER-LEVELS IN RESERVOIRS.—The Leicester Corporation Waterworks Committee have, upon the recommendation of Mr. J. B. Everard, M.Inst.C.E, decided to adopt the system of electro-mechanical apparatus invented and manufactured by Mr. George Jennings, Lambeth, London, to indicate and register between the new reservoirs and engine-houses at Swithland, Hallgates, and Cropstone, the varying levels of water in the reservoirs. The apparatus consists of a transmitter and a receiver or indicator; the former is at the reservoir, and the latter at the pumping-station, or engineer's office. The transmitter consists of a float, enclosed in an iron cylinder, to secure freedom from oscillation. The cylinder stands in the reservoir, and on it is placed the transmitting apparatus. The float is counterpoised by a weight to which it is attached by a chain passing over a pulley. This pulley is keyed on to the shaft working the transmitter, which is usually arranged to register each inch of rise or fall; though the instrument can be made to show any other degree of variation. As the float rises or falls, the shaft will revolve backwards or forwards, actuating an electrical commutator, by means of a double roller cam. The current may be positive or negative according to the direction in which the shaft revolves, but in each case it is sent through the same wire. The cam imparts a frictional movement to the contacts, retaining the current for an appreciable space of time, say one or two seconds, to ensure certainty of action in the receiving instrument. The battery consists of four or five No. 2 Leclanché cells. This is sufficient for a line of four or five miles, and is placed, with the rest of the transmitting apparatus, on the top of the iron cylinder. As only a single wire is used, the transmitter and receiver are both connected to earth. As the circuit is an open one, and the battery only works during the second or two in which contact is made, the cells will last for a long time without requiring any attention. The receiver may be merely a dial indicating the feet and inches of water in the reservoir, or combined with a revolving drum, with a clock, and the electrical apparatus. On the dial, a large hand indicates the inches, a small one the feet. A disc at the top shows at a glance whether the level of the reservoir is rising or falling. If the last movement was a rise, the disc will be white, but for a fall it shows red. The recorder is a drum 21 in. in circumference, and of a length varying according to the fluctuation in water level which has to be registered. A paper ruled with lines for each hour during the week, and cross-ruled with lines denoting each foot of depth in the reservoir, is fixed on this drum. The drum is connected with the clock, so as to make one complete revolution in the week. The pen which marks the variation in the level is a special non-corrosive one, and the holder is carried on a rod running along the top of the drum, and is driven by a slender chain, which also runs the whole length, passing over a chain-wheel at either end. As one of these wheels is connected with the gearing which moves the dial hands, each variation of an inch will move the pen to the right or left. Thus, at the end of the week, when the paper is removed, there will be inscribed on it a permanent record of the fluctuations in the level during the whole time. On every day except Sunday the pumps were started at about 8 a.m, the level in the reservoir being brought up to 12 ft. 6 in. in about an hour, and the water used rapidly till about 10 p.m., and more slowly during the night. This apparatus has been made to show the rise of water in sewers; it shows variations of an inch, and is intended to give warning when there is any danger of a flood. In connexion with it, an electric bell can be arranged, to give notice if the water-level has risen sufficiently to be a source of danger.

FOREIGN.

FRANCE.—The Paris Municipal Council has just acquired, at the small sum of 3,500 francs, the equestrian statue of Charlemagne, which for several years has stood near Notre Dame. This monumental work, which was exhibited for the first time at the 1878 Exhibition, was executed for the Maison Thiébaut Frères from the design of the sculptor Charles Rochet, and the Council, which has hitherto refused to purchase it, ordered it to be provisionally placed in the Place Notre Dame.——The New Year's honours are as follows: M. Charles Garnier, Member of the Institute, has been made Grand Officer of the Legion of Honour. The architect M. Coquet has been created Chevalier. The Croix d'Officier has also been given to the landscape painter Guillemet, and that of Commander to M. Frémiet the sculptor. M. Guadet, architect, has been elected Inspector-General of civil buildings and national palaces in place of M. Charles Garnier, who has had to retire, having reached the age of seventy. M. Garnier is made Honorary Inspector-General.——A monument has been erected at Vincennes in honour of the soldiers who were killed in 1870-1871.——The annual exhibition of lady artists and sculptors will be opened on January 31 and will close on February 20. It will be held as usual in the Palais de l'Industrie.——A wharf is being now made at Pantin, on the Ourcy Canal. The cost is estimated at 800,000 francs.——The painter Hippolyte Berteaux has just completed the important allegorical decoration of the ceiling in the palace of the Petit Luxembourg, which is the residence of the President of the Senate.——There is a question of opening a limited competition between a small number of well-known artists for the decoration of the ceiling in the Library of the Municipal Council in the Hôtel de Ville, Paris,——The Municipal administration proposes to inaugurate on February 24 the new Mairie of the Xth Arrondissement of Paris, it is the work of the architect M. Rouyer.——The jury of the open competition for the building of the Church of Sainte Germaine de Pibrac, near Toulouse, has awarded the first prize to M. Pierre Joseph Esquié, Paris, architect, and the second prize to M. J. Thillet, Toulouse, architect.——A lycée for young ladies, a professional school, and a school of music are to be built at Clermont-Ferraud. The expense of these works is estimated at about four million francs.——The town of Evreux has arranged a competition for decorative art. It will open on May 1, and remain open during the month.——On January 29 the open competition for the erection of an École des Beaux-Arts at Lille will be closed.——There are announcements of several exhibitions in prospect. At Nantes there will be one from February 1 till March 19. At Pau from January 19 to March 19. At Bordeaux from February 1 to the end of March, and at Lyons from February 20 to April 12.——The Municipality of Lyons is going to erect a monument to the memory of the poet Pierre Dupont in the garden of the Chartreuse. This monument, designed by the architect M. Gaspard André, consists of a short column on which is a bust of Pierre Dupont. A female figure symbolising "Song" stands beside it, with a goat grazing beside her and a child playing a pipe at her feet. The group is backed by a hemicycle parapet wall.——A large fire has destroyed a great part of the choir and sacristy of the parish church of Lourdes. The damage is estimated at 100,000 francs.

GERMANY.—The new monument on the Alexander Place, which has now been unveiled, shows the figure of "Berolina" cast in bronze on a granite pediment, The figure is about 24 ft. high and the pediment about 20 ft. high. The figure shows a good rendering of the popular idea of Berolina welcoming strangers. Herr Hundriesser is the sculptor.——There have lately been some public meetings in favour of widening one of the principal thoroughfares of the western suburbs, known as the Potsdamer-strasse, and much resembling our Kensington High-street. The improvement would certainly be a very satisfactory one.——The important "Oberbaum-brücke" over the Spree, to which we have frequently referred, has now been opened for vehicular traffic.——The enormous scaffold for the cupola of the new cathedral at Berlin has been completed and shows some remarkable construction.——The regular nightly illumination of the Galleries of the Industrial Exhibition has now been decided on. Electric light will be used to a great extent, but where this illuminant cannot be introduced the Municipal Gasworks will supply gas at a reduced rate (one penny per cubic mètre) and will lay the necessary mains to the Exhibition grounds.——According to local papers, Herr Begas, the Court sculptor, has been elected as honorary corresponding member of the Academie des Beaux-Arts of Paris. His election, if confirmed, would be considered to have a certain political significance.

AUSTRIA.—The Houses of Parliament at Vienna which the late Hansen designed in a Neo-Grecian style, have an *atrium* of five proportions. According to a vote passed by the Reichsrath, this *atrium* is to be used for the erection of memorials to deceased Parliamentary persons of importance, and a number of commissions for busts have been given by the Home Office.——The painter, Victor Haussmann, has been commissioned by the War Office to paint a group showing the various arms of the Austrian army. The picture is to be exhibited at the Budapesth Exhibition. The plans of the Vienna Metropolitan Railway are being constantly revised and elaborated, although the works are already well in hand. There will be numerous extensions to the main line, and some minor lines will be built in connexion with them. Tenders are constantly being invited for different sections, but we do not notice any English contractors on the list.

MISCELLANEOUS.

THE STUDENTS' COLUMN.—In consequence of an accident with some of our blocks this week, we are compelled to hold over our Students' Column article, which would be unintelligible without the illustrations which accompany it.

PICTURE-HOOKS.—Messrs. Skegg & Co. (Manchester) send us a description and drawing of their picture-hook for hanging pictures to ceiling or wall-mouldings, the special point of which is that there is a small pulley for the cord or wire of the picture to work on, thus preventing the constant friction at this point which is the usual cause of the sudden breakage of picture cords or wires.

NATIONAL PORTRAIT GALLERY.—Messrs. Archibald Smith and Stevens ask us to mention that the lifts at this building, referred to in our last, were erected by them.

THE TIMBER TRADE.—Messrs. Foy, Morgan & Co.'s annual wood report is accompanied by a chart showing the rise and fall of supply of various timbers during 1892-3-4-5 by diagrams. The most regular trade, neither much above or much below the mean average, has been in flooring. In Baltic

deals there was a high average at the end of 1894 and the beginning of 1895. Canadian pine rose to 45 per cent. above the average in June, 1894, and was again at nearly as high a point in October, 1895. Canadian spruce rose to its highest point at the end of 1892 and the beginning of 1893, and is now at a very low average. Rough boards rose to their highest point in the beginning of 1895. Pitch-pine deals show a very large delivery in March, 1894, and nearly as high in February, 1895, since which time the supply has gradually fallen below the average. In their report Messrs. Foy, Morgan & Co. observe that the estimate of the result of last year's business in the wood trade of the United Kingdom will certainly be a favourable one, so that in this respect, as well as in certain minor points of detail, the characteristics of 1895 afford a sufficiently striking, although by no means an exaggerated, contrast to the conditions of trade in 1894. The import has been smaller, scarcely reaching an average; the proportion of consignments for shippers' account has been greatly reduced; and, perhaps because of these facts, the result of the year's trading has proved as unexpectedly satisfactory as last year's was disappointing. The statistics of the Board of Trade show that for the last six years the quantity imported has oscillated pretty regularly, in alternate years, below and above the average; but, in the spontaneous effort of a market—comparatively free as the wood trade is of rings and combinations—to adjust the supply to the normal consumption, there is no instance in recent years of an equilibrium so nearly established as in the past year. Experience has shown that in point of consumption the wood trade has, in ordinary times, the minimum of elasticity; that therefore the magnitude of the import is the crucial determinant of the home markets; and hence that the stability of prices ultimately depends rather on the discretion exercised by importers than on the variation in the needs of consumers. The change in the source of the supplies, which was one of the striking features of the import in 1894, has been continued with the result that Russian sawn goods now compete over a considerably extended area with Swedish productions. This competition of Russian deals had a bad effect on the import prices of Swedish deals, which fell continuously during the spring and early summer, causing, for the time being, serious loss, chiefly, however, to the shippers, but also to some few merchants who had bought early in the season. The ultimate results would have doubtless proved even more disastrous had it not been for the orders for deal cargoes for Africa which began to arrive in the summer, and which increased in magnitude as the season advanced. To this cause must the recent recovery in deal prices be attributed, the Colonial demand being concentrated on goods for which there seemed to be no possible outlet in the English markets.——Messrs. C. Leary & Co.'s annual circular on ship-building furniture, and other hard woods, states that of East India teak the imports of timber were exceptionally heavy in order to provide the supplies (about 7,000 loads) for H.M. dockyards, which were bought for selection in the docks here. The deliveries include these supplies, and therefore show that the general consumption has been very little in excess of that for 1894. Planks: The landings were double those of 1894, whilst the deliveries only increased by 16 per cent., the stock is consequently 57 per cent. larger than that of a year ago. Padouk.—Only one cargo has been received during the year. The consumption was disappointing, owing probably to the extremely low prices prevailing for other cabinet and constructive woods. There is a good stock of excellent character, and this timber is well worthy the attention of consumers of high-class woods. Quotations are 2s. 6d. to 3s. 6d. per cube foot. Australian Hardwoods.—The imports of Jarrah for 1895 were 12,800 loads, and show an increase of 5,100 loads over those of 1894. The demand has kept pace with the supply, as most of the cargoes which have arrived have gone into consumption direct. In the effort to meet the growing enquiry less care has been taken in the selection and preparation of some of the shipments, thus giving rise to complaints and a tendency in favour of other kinds of woods, of which Australasia appears able to furnish a desirable selection, and of which there are considerable landed stocks here. The great bulk of the consumption of these hardwoods has been for use in London, but the provinces are slowly adopting them. A demand for the Continent is also beginning to make itself felt, though so far it has scarcely passed beyond the experimental stage. It is to be noted that the use of Australasian hard woods is still, with a few exceptions, confined to street-paving purposes, but even if no other important outlet should be discovered, the prospects for the future are quite encouraging. Kauri Pine.—Good planks should be imported in small parcels at regular intervals; the quotation is from 2s. to 2s. 6d. per cubic foot, with good prospects. Mahogany.—The arrivals during 1895 are the lowest on record for many years. Consumption shows a sharp decline from the previous year, which, however, represented high-water mark of recent times, and the total for 1895 is slightly above the average for the last ten years. In the last three months there has been a decided change for the better. Short supplies synchronised with the revival of trade, and as stocks worked down so a decided advance in prices was established. With an active demand, limited stock both here and in other European markets, and moderate prospective supplies, we open the New Year under unusually favourable auspices, and there is good reason to hope that 1896 will be a profitable year to those engaged in the mahogany trade.

ELECTRICAL WORK.—The past year has been a fairly successful one for the electrical industry. One of the most promising outlooks in this direction is the greater use that is being made of electrical motors in many factories and workshops. Nearly all the electrical companies supply current at a much reduced price for power purposes in the day-time, and it seems as if the long-wished-for day-load were at last coming. As we anticipated, Mr. Arthur Wright's sliding-scale system of charging for the electric-light has been adopted by many provincial companies, and so far we have not heard any complaints made against his demand-indicators, which made this system of charging practicable. Complaints against electric-meters are rarely heard now—at least from the consumer, as when anything goes wrong it is nearly always in his favour. It is very difficult to get an ordinary meter to start when only one eight-candle power lamp is in circuit—a difficulty, by the way, which will be considerably increased with 200-volt meters. Manufacturers are not enamoured with this new system of supply any more than the general public, and we shall be surprised if much progress is made with it this year. The new central stations are now approximating more or less to one type, direct current being used for the central area and alternating with transformer sub-stations for outlying suburbs. Alternating current has been proved to be unsuitable for arc-lamps, but Mr. Ferranti's rectifiers seem to provide a means of having the advantages of alternating currents with good arc-lights. Not much was done in electric traction last year in this country, the Bristol-Kingswood line being the most important. An electric mountain railway was opened in the Isle of Man, and satisfactory progress has been made with both the Waterloo and City Tunnel and in beginning the Central London Railway. It is not altogether a matter of regret that electric traction has not become more universal, as improvements are being continually invented. Engineers are at present hesitating before declaring for overhead trolleys, with their obvious drawbacks, in the hope that some cheap surface-system may prove satisfactory in practice. In America the use of the continuous rail in electric traction has been proved to be possible. In Brooklyn alone there are over thirty-two miles of track in which consecutive rails have been welded together. Of course changes of temperature produce great strains in these rails, but as they are almost buried in a macadamised road the resistance of the friction of the road-bed is quite sufficient to prevent changes of length, and the stresses called into play are well within the safety margin of the tensile strength of the steel. In cases where the rail has broken the break has always occurred at a badly-made weld. The advantage of continuous rails is very great, as the electrical resistance of the weld is very much less than that of any kind of "bond."

PULPIT, ST. MICHAEL'S CHURCH, LINLITHGOW.—A new pulpit has just been placed in the recently-restored parish church of St. Michael's, Linlithgow. The pulpit is square in plan, only so much of the corners being bevelled off as to admit of the introduction of niches at each angle. The body of the pulpit projects about 15 in. beyond the pedestal and rests on carved corbels which spring from small octagonal shafts, eight in number, in front of the main supports. Similar shafts with carved capitals at each angle support the pedestals of the niches, and the pedestal between these groups of shafts is open, each opening being arched and enriched with cusping and carving. The panels of the pulpit are filled with tracery work, and one of the members of the cornice is carved. The niches have carved and moulded canopies, and the stair railings are of open tracery. The whole structure is of selected oak. The pulpit will stand in the nave on the north side of the church close to the respond of the chancel arch. In this position one of the niches will hardly be seen, and the other three are filled with statuettes of three celebrated queens, one representing Queen Margaret; another, Queen Mary; and the third, Queen Victoria. The whole work has been executed by Messrs. John Taylor & Son, from the designs of Mr. Honeyman, A.R.S.A., of the firm of Messrs. John Honeyman & Keppie, architects, Glasgow.

WOLVERHAMPTON MASTER BUILDERS' ASSOCIATION.—The annual general meeting of this body, which is affiliated with the National Association of Master Builders of Great Britain, was held on Saturday last, at the "Star and Garter" Hotel, Wolverhampton, when the committee and officers for 1896 were elected. There was a good attendance of members. The annual report was read, and showed that much valuable work had been done, and the balance-sheet was presented and showed a very satisfactory result. The membership of the Association is steadily increasing. Mr. George Gough was re-elected hon. sec.

BRUSSELS INTERNATIONAL EXHIBITION, 1897.—The Science and Art Department has received through the Foreign Office a communication stating that an International Exhibition will be held in Brussels in 1897.

ART EXHIBITION AT CAMBUSLANG.—An art exhibition under the auspices of the Cambuslang Institute was opened on the 1st inst. in the hall of the Institute, Cambuslang.

CAPITAL AND LABOUR.

WAGES IN THE LEEDS BUILDING TRADE.—In reference to the question of wages in the building trade at Leeds, it is stated that the Bricklayers' and Labourers' Unions have given notice of their intention to seek an advance of a halfpenny per hour, and an alteration of the rules, which would reduce their hours of working from 50 to 49½ per week. A similar one has been given at the beginning of each of the two years previous, and afterwards allowed to lapse. The masters do not expect that there will be the requisite amount of work on hand this year to warrant the changes, but if trade was very brisk the concession would doubtless be made. The only dispute during the year was in the joiners' trade, an advance of a halfpenny per hour being granted after a cessation of work for a few weeks. The joiners were thus brought into line with the bricklayers and masons, in so far as concerns wages, though they work a half-hour less per week than the bricklayers.

RATE OF WAGES IN EDINBURGH BUILDING TRADE.—Since the beginning of May Edinburgh masons generally have been receiving 9d. per hour, and in some cases 9½d., though the recognised standard rate remains at 8½d. per hour. On March 1 the wages of plumbers were raised from 7½d. to 8d. per hour; on April 27 bricklayers also received ½d. increase, from 8½d. to 9d., and on September 16 the lath-splitters received an additional ½d., bringing their wage to 8d. per hour. Plasterers have been working at 8½d., but, in accordance with the decision of a recent conference between the operatives' and employers' associations, a 9d. rate will come into force on March 2. The numbers employed in the various branches of the trade are;—Masons, 1,700; plumbers, 550; plasterers, 320; bricklayers, 100; lath-splitters, 40—a total of 2 710, to which must be added a considerable number of joiners (who, however, have not been by any means so regularly employed) and a great body of unskilled labour.

LEGAL.

PATENT CASE.

A DECISION has just been given in a case that was heard before the Comptroller at the Patent Office on December 10, which will be of interest to those connected with the building trade, especially in regard to the erection and fitting of school-rooms, &c. A patent was applied for by Messrs. Thornborough & Wilks in September, 1894, for improvements in the sliding partitions by which school-rooms are divided when required into smaller rooms. This patent was opposed by Messrs. Peace & Norquoy, on the ground that it was included in an earlier patent vested in them, in which they lay claim to the hingeing together of the pivoted leaves and sections of partitions. The Comptroller has, however, decided to seal a patent on Messrs. Thornborough & Wilks' application, stating in doing so that having regard to the state of public knowledge with reference to the hingeing of partitions together, he can only read the claim in Messrs. Peace & Norquoy's patent as being for substantially the arrangement set out in the specification, which comprises a half-door hinged to the wall, and other leaves hinged thereto. And he regards the invention of Messrs. Thornborough & Wilks as for means substantially different to those already patented; but, in the interests of the public, he requires the applicants to insert in their specification a disclaimer to the effect that movable partitions, comprising a number of leaves hinged together, are not new, and are not, *per se*, claimed by them. This, of course, the applicants can raise no objection to, as they do not appear to have set forth that they did claim hingeing together of the leaves of partitions, their patent being for special devices for supporting these hinged leaves upright. Mr. J. O. O'Brien, of Messrs. W. P. Thompson & Co., Manchester, appeared for the applicants, and Mr. Fulton represented the opponents.

PUBLIC BUILDINGS AND THE TRIBUNAL OF APPEAL.

THE Tribunal of Appeal, consisting of Mr. Alfred A. Hudson, A.S.I., Barrister, Mr. J. W. Penfold, F.S.I., F.R.I.B.A., and Mr. Arthur Cates, F.S.I., F.R.I.B.A. (Chairman), and the Clerk, Mr. Chas. H. Love, sat at the Hall of the Surveyors' Institution, 12, Great George-street, Westminster, on December 18, to decide the appeal of the Metropolitan Asylums Board *v.* Mr. A. Tanner, the District Surveyor of Hatcham, who required the walls in the new ward of the South-Eastern Hospital at Hatfield-street, New Cross, to be on the ground-floor 18 in. instead of 14 in. thick. The ward consists of two lofty stories.

Mr. Reginald Cunningham Glen (instructed by Messrs. Williams & James, solicitors), represented the appellants; Mr. W. F. Craies was counsel for the District Surveyor (instructed by Messrs. Pyke & Parrott, 63, Lincoln's-Inn Fields.

COMPETITIONS, CONTRACTS, AND PUBLIC APPOINTMENTS.

COMPETITIONS.

Nature of Work.	By whom Advertised.	Premiums.	Designs to be delivered.
Infirmary	Shardlow Union	20*l.* 10*l.*	Jan. 31
Club House	Lytham & St. Anne's Golf Club	20*l.* 15*l.* 10*l.*	Feb. 8
Sewerage Scheme	Walsall R.D.C.	30*l.* 15*l.*	Feb. 15

CONTRACTS.

Nature of Work or Materials.	By whom Required.	Forms of Tender, &c. Supplied by	Tenders to be delivered.
Stable Buildings, Abbeylands, Whiteabbey, Belfast	Col. McCalmont, M.P.	Mr. Hunter, Surveyor, 4, Waring-st. Belfast	Jan. 14
Schools, Beckett-street	Barnsley School Board	Senior & Clegg, Architects, 15, Regent-st. Barnsley	do.
House and Stables, Dunmurry, Ireland	....	Neill & Paterson	do.
Clee Hill or other Road Stone	Old Swindon U.D.C.	W. E. Morris, Surveyor, 42, Cricklade-street, Swindon	do.
Additions to No. 20, Bondgate Without, Alnwick	Dr. Robson	M. T. Wilson, Architect, 69, Narrowgate, Alnwick	Jan. 15
Excavator Work, Mitford-terrace, Hall-lane, Armley, Leeds	Leeds Indus. Co-op. Soc. Ltd.	J. W. Fawcett, Secretary, 10, Albion-st. Leeds	do.
Street Works	Barnsley Freehold Land Society	Wade & Turner, Surveyors, 10, Pitt-st. Barnsley	do.
Street Works, Gold-street	Barnsley Town Coun.	J. Henry Taylor, C.E. St. Mary's-place, Barnsley	do.
Cottage, Beechwood-avenue, Londonderry	.....	W. Barker, Architect, 25, Orchard-st. Londonderry	do.
Improvement Works, Walshaw-street, &c.	Halifax Corporation	E. R. S. Escott, C.E. Borough Engineer	Jan. 16
School Houses, Melklefolla, Aberdeen	Fyfie School Board	Jas. Duncan, Architect, Turriff	do.
House and Shop, Market-place, Beverley	Geo. Hobson & Son	Hawe & Foley	do.
*Enclosing and Roofing Footbridge, Gloucester	M. R. Co.	Company's Architect, Cavendish House, Derby	do.
Wards at Workhouse	Durham Union	H. T. Gradon, Architect, 22, Market-place, Durham	Jan. 17
Sewers, Littletown, &c.	Durham R.D.C.	Geo. Gregson, Surveyor, 43, Western Hill, Durham	do.
*Erection of Malthouse	King & Sons, Lim.	C. H. Burstow, North-street, Horsham	Jan. 18
*Stoneware Pipe Sewers and Laying-out Sewage Farm	Langport R.D.C.	J. T. Hawkins, Somerton	do.
Waterworks	Haverhill (Suffolk) U.D.C.	Thos. Cockrill, C.E. Town Hall, Haverhill	do.
Alterations to School, Nether Kellet, Lancaster	.....	J. Parkinson, Architect, 67, Church-st. Lancaster	do.
Sewerage Works, Camberley, Surrey	Frimley U.D.C.	W. S. Hodgson, C.E. High-st. Camberley	Jan. 19
Pipe-laying, Tindale-crescent	Auckland R.D.C.	C. Johnson, Surveyor, 1, Cradock-st. Bishop Auckland	Jan. 20
Infirmary at Workhouse, Ashbourne-road	Leek (Staffs.) Union	J. T. Brealey, Architect, Hanley, Staffs.	do.
Retaining Wall, Bromley-road	Beckenham U.D.C.	J. A. Angell, Beckenham	do.
Granite (3,000 tons), near Chipping Norton	Chadlington Highway Board	R. Entwistle, Surveyor, Chipping Norton	do.
Road and Sewers Work, Highgate	Hornsey U.D.C.	E. J. Lovegrove, Council Offices	do.
*Sewerage Works	Sandgate U.D.C.	A. R. Bowles, Sandgate	do.
*Cast-iron Pipes, &c.	Tottenham & Wood Green Joint Drainage Committee	P. E. Murphy, 712, High road, Tottenham	do.
Widening Bridge over Birmingham Canal, near Moseley	Wednesbury Corp.	E. Martin Scott, Boro' Engineer	Jan. 21

CONTRACTS—*Continued.*

Nature of Work or Materials.	By whom Required.	Forms of Tender, &c. Supplied by	Tenders to be delivered.
*Supply of Pipes, Sewer Works, &c.	Bournemouth T.C.	Borough Surveyor	Jan. 21
Kerbing, Channelling, &c. Dixon-street	Rotherham Corp.	do.	do.
Drainage Works	Thornhill (Yorks) U.D.C	J. C. Haller, C.E. Council Offices, Thornhill, near Dewsbury	
Cottage	Lancaster Properties Committee	Borough Surveyor	do.
Schools, Coppermill-road	Walthamstow Sch. B.	W. A. Longmore, Architect, 7, Gt. Alie-st. E.	do.
*Execution of Works and Supply of Materials	Wandsworth District Board of Works	Clerk to the Board	do.
*Making-up Roads	Tottenham U.D.C.	P. E. Murphy, 712, High road, Tottenham	do.
*Alterations to River Wall, &c. North Woolwich	London C.C.	9, Spring-gardens, S.W.	do.
Making-up Surrey-road, &c.	Branksome (Dorset) U.D.C.	S. J. Newman, Architect, 3, Tennyson-buildings, Ashley-rd. Branksome	do.
Alterations to Buildings, Yatton	G. W. Ry. Co.	G. K. Mills, Secretary, Paddington Station	do.
Widening Scandale Bridge, Ambleside, near Kendal	Westmoreland C.C.	Jos. Bintley, County Surveyor, 7, Lowther-street, Kendal	do.
Bridge over River Lowther, Askham	do.	do.	do.
Cast Iron Pipes, Pipe Laying, &c.	Faversham R.D.C.	Stevenson & Burstal, Engineers, 38, Parliament-st. Westminster	Jan. 22
*Guernsey Granite Kerb	Greenwich Bd. of W.	Offices, 141, Greenwich-road, S.E.	do.
*Paving Footways and Making-up Roads	do.	do.	do.
*Making-up Eastfield-road	Walthamstow U.D.C.	Surveyor at Town Hall	Jan. 24
Bridge Works	Salford Corporation	Borough Engineer	do.
Schools, Dent's Close, Melbourne, near Derby	.....	Hy. Beck, Architect, High-st. Burton-on-Trent	Jan. 25
Passenger Station, Talbot-road, Blackpool	L. & Y. & L. & N.W. Ry. Cos.	C. W. Bayley, Secretary, Hunt's Bank, Manchester	Jan. 28
*Making-up and Paving Streets	Borough of West Ham	Lewis Angell, Town Hall, Stratford	do.
*Additions to Infirmary	Parish of St. Leonard, Shoreditch	F. J. Smith, 175, Gt. George-st, S.W.	Jan. 29
Chapel, Cynwyd Corwen, Corwen, Wales	Calvinistic Methodists	Robt. Davies, Porth-y-Dwr, Cynwyd	Jan. 31
*Construction and Erection of Band Stand	Wood Green U.D.C.	C. J. Gunyon, Town Hall	do.
Sewers	Manchester Corp.	City Surveyor, Town Hall	Feb. 1
*Mason and Pavior's Work	Stoke Newington Ves.	S. E. Burgess, Vestry Offices, Stoke Newington	do.
*Erection of New Schools	Harpenden Sch. Bd.	Clerk to the Board	Feb. 3
*Sewerage Works	Ipswich Corporation	Shone & Ault, 47, Victoria-street, S.W.	Feb. 4
Laundry, Meanwood, Leeds	.....	R. Carr, 11, North-lane, Headingley	No date
Four Semi-detached Houses, Appley-lane, Wrightington, near Wigan	.....	W. B. Johnson & Son, Architects, 31, King-street, Wigan	do.
Block of Houses, Fitzroy-avenue	John Gilmore	W. J. Moore, Whitehall-buildings, Ann-street, Belfast	do.
Home for the Blind and Deaf, Blenheim-walk	Leeds Sch. Bd.	W. S. Braithwaite, Architect, Leeds	do.

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Advertised.	Salary.	Applications to be in.
*Road Surveyor	Hackney Vestry	55*s.* per week	Jan. 13
*Road Foreman	Acton D.C.	34*s.* weekly	Jan. 21
*Sanitary Inspector	Vestry of St. Matthew (Fethnal Green)	120*l.* increasing to 200*l.*	do.

Those marked with an asterisk (*) are advertised in this Number. *Contracts, pp.* iv., vi., *&* viii. *Public Appointments, pp.* xvi. *&* xviii.

Mr. Thos. W. Aldwinckle, Architect to the Board, Mr. Arthur Harston, F.S.I. (of Messrs. A. & C. Harston, architects and surveyors, Leadenhall-street, E.C.), and Mr. Percy J. Smith, architect, of 17, George-street, S.W., all of great experience in building hospitals, each agreed that the stability of the two walls 120 ft. long would be assured and sufficient if 14 in. thick; that the buttresses, sanitary turret, and smoking and ventilating flues were additional supports. The rigid first floor would prevent vibration, and undoubtedly gave some of the support that cross-walls would give. The life of the building so built would be 100 years. The chases lessened the strength to some extent. Mr. Aldwinckle said he had built two similar hospitals, which had stood severe tests. The other witnesses stated they had not built on the same plan, but it was only a variation from the ordinary style.

For the District Surveyor, Mr. Craies said the case was of some novelty and importance to District Surveyors and architects. It was true that under the Act of 1855 public buildings were exempted from the hard and fast rules of the schedules, but the Legislature had adopted the recommendations of the various institutions, guided by professional experience, in the Act of 1894, and the tribunal, being professional, had its regulations brought up to date. It was a judicial tribunal, whose decision would be in the nature of a decided case upon the law of building for architects, and Mr. Tanner had brought it as a test case for District Surveyors, and as to whether architects ought to have a free hand. Here they had a public building within the definition in Section 5, Sub-section 27. A public building, at any rate from an architectural point of view, or the public point of view, should not be less stable or sound in the matter of structure and thickness than an ordinary building under the Section. It was the duty of a District Surveyor, he contended, to provide that the building should be up to the standard or in excess. The building was rather over 30 ft. high, and if they adopted the warehouse scale, the thickness of the walls should be 22 in. If it was possible in practice to have an agreed thickness, it would be a guide, and save enormous difficulty to District Survayors. The ordinary practice of architects was to allow 18 in. at least for the ground-floor walls of such a public building as this.

Mr. A. Tanner, A.R.I.B.A., District Surveyor, said that in his opinion, 18 in. was the least thickness that should be allowed to make the building stable; in his experience of twenty-eight years, 14 in. was not the customary thickness to erect walls in a like position. The buttresses were cut into the walls, and on the east a space of 41 ft., containing four large windows, was without any additional strength.

Mr. Henry Cowell Boyes, F.S.I., F.R.I.B.A., Ormond House, Queen Victoria-street, supported the District Surveyor, and stated that in his practice he regarded the scheduled thickness of walls as the minimum thickness which should be adopted in all cases.

The tribunal made known to the parties interested their decision on the 20th ult. as follows:—That the thickness of the east and west walls of the pavilion, the subject of the appeal, shall on the ground story up to the level of the underside of the rolled steel joists to carry the first-floor, be constructed of the thickness of 17½ in.; and that the appellants do pay the costs of the District Surveyor, incurred by him in relation to the appeal, the costs to be taxed as between solicitor and client.—*Local Government Journal.*

MEETINGS.

FRIDAY, JANUARY 10.

Architectural Association.—Mr. H. T. Hare on "Municipal Buildings." 7.30 p.m.

MONDAY, JANUARY 13.

Royal Institute of British Architects.—Fifth General Meeting (business) for (1) the Election of Candidates for Membership under By-laws 7, 8, and 9; (2) to receive the Deed of Award of the Prizes and Studentships for 1895-96. 8 p.m.

Royal Academy of Arts.—Lectures on Painting, by Professor W. B. Richmond, R.A. III.—"The Sistine Chapel: Michelangelo." 4 p.m.

Clerks of Works' Association (*Carpenters' Hall*).—Monthly meeting. 7.30 p.m.

Liverpool Architectural Society.—Mr. Charles S. Errington on "Mouldings, Features and Ornaments (Mediæval)." 6.30 p.m.

Leeds and Yorkshire Architectural Society.—Mr. P. S. Worthington, M.A., on "Some Remnants of Mediæval Burgundy."

TUESDAY, JANUARY 14.

Institution of Civil Engineers.—The Hon. R. C. Parsons, M.A., on "The Sanitary Works of Buenos Ayres: Sewerage, Drainage, and Water-Supply." 8 p.m.

Carlisle Architectural, Engineering, and Surveying Society.—Mr. J. Slack on "Some Pitfalls on Commencing Practice."

Society of Biblical Archæology.—8 p.m.

WEDNESDAY, JANUARY 15.

British Archæological Association.—Mr. J. W. Tonks on "Borough Seals and Civic Maces." 8 p.m.

Builders' Foremen and Clerks' of Works Institution.—Annual Meeting of the Members. 8 p.m.

St. Paul's Ecclesiological Society.—Exhibition of objects of Ecclesiological interest." 7.30 p.m.

THURSDAY, JANUARY 16.

Royal Academy of Arts.—Lectures on Painting, by Professor W. B. Richmond, R.A. IV.—"The Sistine Chapel: Michelangelo." 4 p.m.

Institution of Electrical Engineers.—(1) Presentation of Premiums; (2) Inaugural Address of the President, Dr. John Hopkinson, M.A., F.R.S. 8 p.m.
Society of Antiquaries. 8.30 p.m.

FRIDAY, JANUARY 17.

Institution of Civil Engineers (Students' Meeting).—Mr. W. O. Leitch, jun., on "Iron Tunnels." 8 p.m.

RECENT PATENTS:

ABSTRACTS OF SPECIFICATIONS.

22,653.—LADDERS: *W. Lee.*—A ladder is formed of two parts hinged together, the hinges allowing the parts to be folded at an angle so that the device may be used as a step-ladder.

1,666.—WATER-CLOSETS: *E. Traies.*—Relates to a water-closet basin constructed to maintain a high-water level. The trap is formed partly by the out-go and closet basin, and partly by a bent tube connected to the out-go by a joint which is always under water.

1,960.—FLOORS: *C. Major.*—In constructing fireproof-floors blocks of concrete or fire-clay are used, each block being formed on its upper surface near its opposite edges, with under-cut stepped projections, the distance between the projections being less than the width of the flange of the metal girder to which the blocks are to be applied, the said blocks being suspended or supported on the metal girders by these projections.

2,196.—VARNISH: *H. Crowther.*—A varnish for preserving bright metallic surfaces, and a solvent for removing such varnish when it becomes dirty. The varnish is produced by adding to a solution made by dissolving gum damar in coal-tar, benzol, or other suitable hydro-carbon, a quantity of benzoline or petroleum spirit so as to precipitate the insoluble portions of the gum and leave a clear transparent varnish. A solvent for removing said varnish is produced by combining nitro-benzol and coal-tar naphtha.

2,358.—KILNS: *J. Hall.*—Kilns for burning pottery, earthenware, or pipes are constructed, in the case of beehive kilns, with radial walls of fire-brick, and with interstices between the bricks in each course. This arrangement facilitates stacking, obviating the necessity of placing large articles in the kiln to hold the smaller ones in position.

6,461.—LATTICE FOR WINDOWS: *J. Graef.*—A protective lattice for windows to prevent accidents to children by falling therefrom. Consists of perpendicular bars held together by cross bars and connected to the wood of the window-sashes by means of movable cross-pieces hinged to T-pieces secured to the sashes. The guard has a slight lateral movement caused by opening or closing the window, and moves on a guide secured to the window-sill.

7,211.—ROOFS: *E. Smith.*—Means for repairing slated roofs without removing the upper course of slates. The slate is attached to a metal plate by means of a screw and washer, the said metal plate being provided with a leg to rest against the slate batten.

11,729.—VENTILATING: *W. Shaw.*—A system of ventilation in which ventilating-fans or air-propellers are used. The fans are driven by means of electric motors. The fresh air is, by the action of the fan, drawn in through a number of inlet ducts in connexion with which is arranged a cellular diffuser in the form of a truncated oblong or square pyramid which is fitted in the wall. The vitiated air is drawn up through passages or faucets to a shaft and forced out at the top.

15,376.—BUILDING BLOCKS: *W. Marsden and another.*—A building block constructed to form both a gutter or spout and cornice, comprises a rectangular block, a front projecting part to form the cornice, a groove or channel to form the gutter or spout, and a flange against which the spars may rest.

20,151.—FLOORS: *A. Wright.*—Relates to fireproof flooring constructed of flat bars of metal placed on edge between and alternating with curved or arched plates, or corrugated sheets of metal resting upon girders and forming a permanent centering for concrete. Suitable hangers may be suspended from the flat bars for supporting the ceiling.

20,322.—MANHOLE COVERS: *M. Aspinall.*—Deals with circular solid iron trays with handles on the underside, turned up edges and projecting claws for attaching to domed undersides of specially-made ventilating sewer manhole covers, when required to stop the ventilation. When the tray is fixed in position the turned-up edges allow a liquid seal.

NEW APPLICATIONS FOR LETTERS PATENT.

DECEMBER 23.—24,565, C. Jones, Fasteners for windows.—24,579, J. Cook, Gulleys.—24,596, R. Thorburn, Manufacture of tiles.—24,601, J. Butterworth and H. Clementson, Operating sliding window-sashes.—24,628, F. Groenert, Draught and weather excluder.

DECEMBER 24.—24,661, I. Russell, Double stench traps or gullzys.—24,667, J. Heathman, Ladders and portable scaffolds.—24,674, F. Bond, Fireproof flooring, roofing, beams, bressummers, &c.—24,722, G. Fuery, Pavements, steps, &c.—24,755, H. Grainger, Horticultural buildings.

DECEMBER 27.—24,777. F. Krause, Roofing-tiles.—24,793, E. Hentsch, Door-bolt.—24,845, F. Schweitzer, Construction of ceilings.

DECEMBER 28.—24,858, J. Maddock, Kiln-hook.—24,863, Macpherson, Radiating back covings, or linings for fireplaces, stoves, &c.—24,877, J. Henermann, Machine for levelling roads and other earth surfaces.—24,898, M. Nahnsen, Process for the manufacture of cement and cement mortar.—24,902, W. Hall and W. Bayliss, Draught and dust excluders.—24,904, W. Shoosmith, Back-pressure and tidal valves for drains, &c.—24,907, J. Phillipps, Continuous kilns for burning bricks, tiles, terra-cotta, &c.

DECEMBER 30.—24,967, M. Koett, Production of marble-like stucco or plaster-work suitable for walls, ceilings, &c.

DECEMBER 31.—24,992, A. Perkins, Ladders.—25,018, W. Thompson, Dovetail mortising machines.—25,020, W. Wallace, Water-closet seats.—25,035, A. Latto, Door bell and gong.—25,037, M. Campbell, Stone-planer.

PROVISIONAL SPECIFICATIONS ACCEPTED.

17,494, B. Gypson, Attaching door-knobs to their spindles.—19,064, A. Hague, Sliding-door hangers.—21,599, A. Morrison, Articles for keeping doors open, combined door-stop and fastener.—22,175, H. Kerr, Slip-bolts or fasteners.—22,946, A. Hewitt, Locks or latches for doors, &c.—23,216, J. Breeden & Co., Ltd., and F. Breeden, Flushing apparatus for water-closets, &c.—23,416, S. Page, Electric door-fastening.—23,604, J. Linkleter, Ladders.—23,726, T. Gill, Combined screw and nail for use in wood work.—23,790, E. Clifford and others, Self-fastening sash-fastener.—23,954, W. Byers Device for preventing ladders slipping when in use.

COMPLETE SPECIFICATIONS ACCEPTED.

Open to opposition for two months.

1,645, J. Fleming & C. Woollam, Rectangular oven or kiln for firing clay goods in any stage of manufacture.—3,917, H. & A. Shaw, Dies for bricks.—4,101, H. Jenss, Glazing windows, &c.—4,272, W. Youlten, Casements.—4,647, L. Cresswell, Domestic and other fireplaces.—13,788, E. Edwards, Block or cube for wood pavements.—22,353, E. Pareigis, Folding tables or desks, and the combination thereof with chairs.—22,509, W. Smith, Sash-fastener.

PRICES CURRENT OF MATERIALS.

TIMBER.		
Greenheart, B.G.	ton	8/0/0 0/0/0
Teak, E.I. ..load		10/0/0 16/0/0
Sequoia, U.S. ft. cu		1/10 2/0
Ash, Canada load		3/5/0 4/10/0
Birch, do.		2/15/0 4/15/0
Elm, do.		4/0/0 5/5/0
Fir, Dantsic, &c.		2/0/0 3/10/0
Oak, do.		2/15/0 4/15/0
Canada		6/10/0 8/0/0
Pine, Canada red		0/0/0 0/0/0
Do. Yellow		2/15/0 5/0/0
Lath, Dantsic, fath		4/10/0 5/10/0
St. Petersburg..		5/0/0 6/10/0
Wainscot, Riga, &c., log		2/15/0 5/0/0
Odessa, crown....		2/15/0 5/0/0
Deals, Finland and & 1st std 100		7/0/0 8/10/0
Do. 4th & 3rd ..		7/0/0 8/0/0
Do. Riga		7/0/0 8/0/0
St. Petersburg, 1st yellow ...		9/10/0 12/0/0
Do. 2nd yellow		7/10/0 9/0/0
Do. white		8/0/0 9/10/0
Swedish		7/0/0 15/10/0
White Sea.....		7/15/0 14/15/0
Canada, Pine 1st		21/0/0 25/0/0
Do. do. 2nd....		16/0/0 17/0/0
Do. do. 3rd, &c.		8/0/0 10/0/0
Do. Spruce, 1st..		9/0/0 10/10/0
Do. do. 3rd and 2nd		6/15/0 7/10/0
New Brunswick		6/0/0 7/0/0
Battens, all kinds		5/0/0 20/0/0
Flooring boards, sq., 1 in. prep. 1st.....		0/9/6 0/14/6
Do. 2nd		0/6/6 0/11/6
Other qualities—		0/4/6 0/7/6
Cedar, Cuba ..ft.		/4 /4½
Honduras, &c.		/3½ /4½
Mahogany, Cuba		/3½ /6
St. Domingo, cargo av.		/3½ 1/0
Mexican do. do.		/4 /4½
Tobasco do. do.		/4½ /6
Honduras do. ..		/4½ /6
Box, Turkey ton		9/0/0 15/0/0
Rose, Rio		9/0/0 16/0/0
Bahia		6/0/0 15/0/0
Satin, St. Domingo		0/0/5 0/1/0

TIMBER *continued*.		
Satin, Porto Rico		0/0/6 0/1/6
Walnut, Italian....		0/0/3 0/0/7
METALS.		
Iron—Pig, in Scotland .....ton		2/4/10 0/0/0
Bar, Welsh, in London		5/12/6 5/15/0
Do. do. at works in Wales.....		5/2/6 5/5/0
Do. Staffordshire, in London....		6/0/0 6/10/0
COPPER—British cake and ingot		43/15/0 44/0/0
Best selected ..		44/10/0 44.15/0
Sheets, strong..		51/10/0 0/0/0
Chili bars		40/11/3 40/16/3
YELLOW METAL		lb 0/0/4 9-16 0/0/4⅝
LEAD—Pig		
Spanish ....ton		11/2/6 11/3/9
English com. brands		11/6/3 11/7/6
Sheet, English, 6 lbs. per sq. ft. and upwards ..		12/10/0 12/12/6
Pipe		12/10/0 0/0/0
ZINC—English sheet ....ton		18/5/0 18/10/0
Vieille Montagne		18/15/0 0/0/0
TIN—Straits.....		58/12/6 59/2/6
Australian.....		59/7/6 59/17/6
English Ingots.		62/0/0 62/10/0
Banca		60/5/0 60/10/0
Billiton		59/0/0 59/10/0
OILS.		
Linseed .....ton		19/15/0 20/5/6
Cocoanut, Cochin		25/10/0 0/0/0
Do. Ceylon		22/15/0 0/0/0
Palm, Lagos		22/0/0 0/0/0
Rapeseed, English pale		24/10/0 24/15/0
Do. brown		23/0/0 0/0/0
Cottonseed ref. .		16/10/0 17/5/0
Oleine.....		19/10/0 20/10/0
Lubricating, U.S.		6/6/0 0/6/0
Do. black		4/9/0 6/6/3
TAR—Stockholm barrel		0/19/6 0/0/0
Archangel.....		0/15/0 0/0/0

TENDERS.

[Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than 10 a.m. on Thursdays.* N.B.—We cannot publish Tenders unless authenticated by the name and address of the sender: and we cannot publish lists in which the accepted Tender is below £100.]

ABERDARE.—For additions to National school buildings, Cwmbach. Mr. C. H. Elford, architect, 34, Cannon-street, Aberdare:—
Williams & James, Pontypridd £476 17 4

ANDOVER.—For the erection of a cottage at the pumping-station, for the Waterworks Committee. Mr. Alfred Purkess, Borough Surveyor:—

Annetts & Son	£298	Sydney Bell, London-st.,	
Frank Beale.....	254	Andover (accepted).....	£250

BARNSLEY.—For the execution of drainage works at the workhouse, for the Union Guardians. Mr. G. Moxon, architect, Central Chambers, Barnsley. Quantities by the architect:—

H. Hinchliffe	£725 0 0	J. Bycraft.....	£595 0 0
Mellor & Moohouse	725 0 0	H. Burrows & Sons..	541 7 0
J. Medley & Son	675 0 0	F. Walker.....	534 0 0
J. Coates	667 0 0	George Hall, Heeley, Sheffield*.....	477 15 0
J. Brook	619 10 6		
Duncan & Jones	598 12 6	* Accepted.	

BRIDLINGTON QUAY (Yorks.).—For the erection of the "Beaconsfield" Restaurant, Promenade and Princess-streets, for Mr. W. H. Senior. Mr. J. Earnshaw, architect, Wellington-road, Bridlington Quay:—

R. Bailey £1,950 0 0		J. H. Hudson * 1,634 0 0	
J. Rennard 1,657 12 6		* Accepted.	

[All of Bridlington Quay.]

CHIPPING ONGAR (Essex).—For the erection of a Council-chamber and offices, for the Urban District Council. Mr. Pertwee, architect, Bank Chambers, Chelmsford:—

R. Lemmon.....£1,339 0 0		F. Noble & Son, Ongar * £1,172 3 6	
E. West..... 1,296 0 0		* Accepted.	
H. Barlow..... 1,200 0 0			

CONGLETON (Cheshire).—For the erection of new mills, &c., at Congleton, for Messrs. Moffat, Pears, & Co. Mr. John W. Rodger, architect and surveyor, 14, High-street, Cardiff:—

S. Warburton £3,950		J. Byrom £3,694	
M. Cooke 3,750		J. Worrall, Congleton*.... 3,691	
* Accepted.			

GREAT GRIMSBY.—For the erection of school-buildings, Barcroft-street, for the Cleethorpes School Board. Messrs. Croft & Bentley, architects, 21, Osborne-street, Great Grimsby. Quantities by Mr. John Watson, Whitefriargate, Hull:—

Hewins & Goodhand £8,806 12 0		J. H. Vickers £7,989 0 0	
W. G. Pickering.... 8,508 10 4		Nutley & Mashford 7,772 17 6	
Wilkinson & Houghton	8,260 17 9	L. Davison 7,919 0 0	
Thompson & Son ..	8,177 0 0	H. Marrows, Gordenstreet, Grimsby*..	7,676 0 0
Ion & Lewis.....	7,997 16 7	* Accepted.	

LEEDS.—Accepted for the erection of a warehouse and shop-premises, &c., in "The Calls." Mr. C. S. Nelson, architect, Sun-buildings, 15, Park-row, Leeds:—

Masonry and Brickwork.—J. Richardson, Chapeltown, Leeds.....	£4,609 8
Ironfounding.—C. Anty & Co., Leeds	
Carpentry and Joinery.—Craven & Umpleby, Leeds	
Plumbing and Glazing.—W. H. Wood, Leeds ..	
Plastering.—A. & S. Wheater, Calverley, Leeds	
Slating.—Watson & Worsnob, Leeds	
Painting—Dearden Bros., Leeds.....	

LONDON.—Accepted for new shop-front and studio, 93, High-street, Whitechapel, for Mrs. W. Wright. Mr. Chas. Chapman, architect:—
A. Hood £245
[No competition.]

LONDON.—For making up roadway and paving footways on Winchendon-road, for the Vestry of Fulham. Mr. Charles Botterill, Engineer and Surveyor:—

	Roadway.	York stone.	Adamant stone.	Imperial stone.	Victoria stone.
	£	£	£ s.	£	£
Joseph Mears.....	435	—	—	—	—
H. J. Greenham	380	350	—	—	—
G. Wimpey & Co. ..	375	350	255 0	280	—
Nowell & Robson ..	427	357	—	—	—
Imperial Stone Co. ..	—	—	—	249	—
Victoria Stone Co. ..	—	—	—	—	275
Adamant Stone Co...	—	—	247 15	—	—
E. Parry	459	—	—	—	—

LONDON.—Accepted for corrugated iron-roofing, steel-stanchions, tie-rods, and purlins complete, for Mr. B. Higgs, New Church-road, Camberwell, S.E.:—
A. G. Wright, 53, Victoria-street, S.W. £110

LONDON.—Accepted at schedule of prices for steel constructional work, fireproof flooring, stanchions, and columns, for new warehouse, 117, Long-acre. Mr. C. J. C. Pawley, architect:—
A. G. Wright, 53, Victoria-street, S.W.

LONDON.—Accepted at schedule of prices for steel roof-principals at Messrs. J. C. & J. Field's candle factory, Upper Marsh, Lambeth. Mr. F. Lee, architect:—
A. G. Wright, 53, Victoria-street, S.W.

LONDON.—For additions to the Operative Jewish Converts' Institution, Bodney-road, Hackney. Mr. Alfred R. Pite, architect, 11, Hart-street, Bloomsbury:—

Hayward	£1,100	Barrett & Power	£963
Falkner	1,083	Porter	949
Beale	1,059	F. T. Chinchen	925

LONDON.—Accepted at a schedule of prices for the erection of new offices, Warwick-road, Kensington, for the Great Western Railway:—F. T. Chinchen.

LONDON.—For the erection of a hall for Kensington School of Art, Berkeley-square:—

Love	£1,197	Hatherly & Carr	£1,035
Forse	1,145	Church	995
Perkins	1,050	Cowlin & Son	963
Stephens & Bastow	1,044		

LONDON.—For making up Rosebery-gardens and Duckett-road (2nd section), for the Hornsey Urban District Council. Mr. E. J. Lovegrove, Engineer and Surveyor, Hornsey District Council, Highgate:—

	Rosebery-gardens.	Duckett-road (2nd Section).
	£ s. d.	£ s. d.
Thomas Adams	992 6 8	642 9 11½
J. Bloomfield	1,014 13 10	664 13 3
W. Griffiths, Kingsland, N.E.*	946 3 7	621 17 2
Jackson & Son	1,066 0 0	653 0 0
Williamson & Sons	1,679 2 0	658 5 3
* Accepted.		

LONDON.—For asphalting the following roads for the Camberwell Vestry. Mr. O. S. Brown, Surveyor:—

	Castle-street.	Mansion-street.	Street between.
	£ s. d.	£ s. d.	£ s. d.
Trinidad Lake Asphalte Co.	190 10 0	186 6 6	140 13 0
Val De Travers Asphalte Co.	157 16 0	154 4 0	116 8 0
Limmer Asphalte Co...	144 13 0	141 7 0	106 14 0
A. C. W. Hobman & Co.	142 9 2	139 4 2	105 1 8
Brunswick Rock Asphalte Co.(accepted)	140 5 4	137 1 4	103 7 4
The Asphaltic Limestone Concrete Co., Ltd.	138 1 6	134 18 6	101 17 0

LONDON.—For stabling and warehouse, Melior-street, Southwark. Mr. Alfred Conder, architect, Palace Chambers, Westminster. Quantities by Mr. Edward J. Paine, of 11, Great James-street, W.C.:—

J. Brown & Son £1,976		J. Chapman £1,767	
McCormick & Son	1,879	Geo. Newton	1,739
H. L. Holloway	1,800	J. Greenwood	1,643
W. Goodman	1,767	Stimpson & Co. (accepted)	1,620
Pritchard & Renwick	1,784		

LONDON.—Accepted for the erection of warehouse and stabling in Asylum-road, Old Kent-road, S.E., for Messrs. Drysdale Bros. Messrs. Waring & Nicholson, architects, 55, Parliament-street. Quantities by Mr. Money Marsland, 40, Great Gower-street, E.C.:—
F. & H. F. Higgs £5,955

LUTTERWORTH.—For the erection of additional casual-wards at the Workhouse, for the Union Guardians. Mr. Thomas Henry, Leire, Lutterworth. Quantities by Mr. C. R. Dalgleish, Shrewsbury:—

J. W. Sawbridge £850		J. King, Lutterworth* ... £785	
W. Cook & T. Ford..... 806		* Accepted.	

MASHAM (Yorks.).—Accepted for the execution of water-supply works (two contracts), for the Urban District Council. Messrs. Fairbank & Son, Engineers, 17a, Lendal, York. Quantities by Engineers:—
Thos. Bell, Market Weighton..... £2,999 19 9

MITCHAM.—For the supply and erection of wood-fencing on the estate of W. F. J. Simpson. Mr. Robt. M. Chart, F.S.I., surveyor, Vestry Hall, Mitcham:—

Mulford Bros.....	£385	Stenning & Sons.....	£368

[Surveyor's estimate, £375.]

ORPINGTON (Kent).—For entrance-lodge and stables to private residence. Mr. St. Pierre Harris, architect, 8, Ironmonger-lane, E.C., and Orpington, Kent:—

T. Gregory & Co.....	£789	Somerford & Son	£718
Stebbings & Pannett	745	R. A. Lowe, Chislehurst*..	687
T. Knight.....	740		

* Accepted in a modified form.

ORPINGTON (Kent).—For rebuilding house and shop property, High-street. Mr. St. Pierre Harris, architect, 8, Ironmonger-lane, E.C., and Orpington, Kent:—

R. A. Lowe £1,999		T. Gregory & Co. £1,818	
T. Knight	1,947	Somerford & Son	1,767
F. Wood	1,943	Stebbings & Pannett	1,685

PONTYPRIDD.—For the construction of a sewer from Zion-street to Clydach Brook (Contract No. 2), for the Urban District Council. Mr. Edward Rees, Surveyor, Urban District Council, Pontypridd. Quantities by Surveyor:—

Batchelor & Snowden £6,396	5 1	R. C. Brebner £5,128	19 11
Wm. Jenkins	5,499 11 5	George Jenkins	5,086 5 2
A. Lawson & Co. ..	5,346 1 11	Edward Powell, Pontypridd*	4,180 12 1
Barnes, Chaplin, & Co.	5,193 9 8	Frank Ashby	3,936 19 4
		* Accepted.	

RIPLEY (Derby).—For the execution of water-supply works (two contracts), for the Urban District Council. Mr. Robert Argile, C.E., Ripley. Quantities by the Engineer :—

Contract No. 1.—Pipes, &c.

The Stanton Iron Works Co., Ltd....	£295 9
The Butterley Co., Ltd., Butterley Iron Works*....	278 0
Jas. Oakes & Co.	270 15

Contract No. 2.—Pipe-laying, &c.

Hy. Ellison	£209 0	W. H. Frost	£155 0
Jas. Holmes	164 0	Wain & Coupe, Ripley*	113 18

* Accepted.

SEAFORD (Sussex).—For the enlargement of Seaford College, for Major F. W. Savage. Mr. B. A. Miller, surveyor, 3, Clinton-place, Seaford :—

Steer	£1,992	Peters	£1,437
Morling	1,483	Berry	1,435

STANNINGLEY (Yorks.).—For sewering, paving, &c., Varley-street, for the Pudsey Urban District Council. Mr. R. W. Cass, Surveyor, Council Offices, Pudsey :—

Garforth Bros.	£450	Wood Bros.	£318

STRABANE (Ireland).—Accepted for the erection of a church, Aughebrack. Mr. E. J. Toye, architect, Strand, Londonderry :—

John Harkin, Donemana, Strabane £2,293

WALSALL.—For new shops and arcade, Digbeth, Walsall. Mr. J. Ellis, architect, Walsall :—

Sapcole & Sons	£4,188 0 0	Hughes	£3,941 0 0
Lynex	4,140 17 4	Mallin	3,899 0 0
Willcock	4,085 0 0	Fenwick	3,837 0 0
Wistance	4,058 0 0	Kendrick, Walsall*	3,676 0 0
Jones	3,998 0 0		

* Accepted.

WALSALL.—For the erection of shops and business premises in Bradford-street, for Mr. E. T. Holden, J.P. Mr. Jonathan Ellis, architect, Bridge-street, Walsall. Quantities by the architect :—

R. Fenwick	£6,945 0 0	Mallin	£5,889 0 0
Sapcole & Sons	6,288 0 0	Hughes	5,821 0 0
Wistance	6,200 0 0	Jones	5,820 0 0
Willcock	6,165 0 0	Kendrick, Walsall*	5,436 0 0
Lynex	6,130 17 4		

* Accepted.

WALTHAMSTOW.—Accepted for alterations to the "Red Lion and Spread Eagle" Tavern, High-street, Walthamstow, for Mr. William Wright. Mr. Chas. Chapman, architect :

A. Hood ..... £930.

No competition.

WHITTINGHAM (Lancashire).—For building new hospital and reception-wards at the County Asylum. Messrs. Simpson & Duckworth, architects, Richmond Chambers, Blackburn. Quantities by Messrs. Harrell & Taylor, Manchester, and the architects :—

W. Southern	£44,360	Wm. Gradwell & Co.	£35,234
Cardwell Bros.	43,217	J. Hatch	36,676
Holme & Green	41,495	S. Johnson	35,695
W. Hothersall	39,830	J. Sharples	35,573
John Christian	38,385	T. Cottam	35,564
John Walmsley	36,950	J. Fecitt & Sons	34,960
Hughes & Stirling	36,680	S. Warburton	34,570
E. Lewis & Son	36,390	Thos. Croft, Preston*	34,450
T. Higson & Sons	36,246		

* Accepted.

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4.	Croyland	SEPT.	11. Netley .. .. .. APRIL.
5.	Whitby	OCT.	12. Bolton .. .. MAY.
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Asphalte.—The Seyssel and Metallic Lava Asphalte Company (Mr. H. Glenn), Office, 42, Poultry, E.C.—The best and cheapest materials for damp courses, railway arches, warehouse floors, flat roofs, stables, cow-sheds and milk-rooms, granaries, tun-rooms, and terraces. Asphalte Contractors to the Forth Bridge Co. [ADVT.

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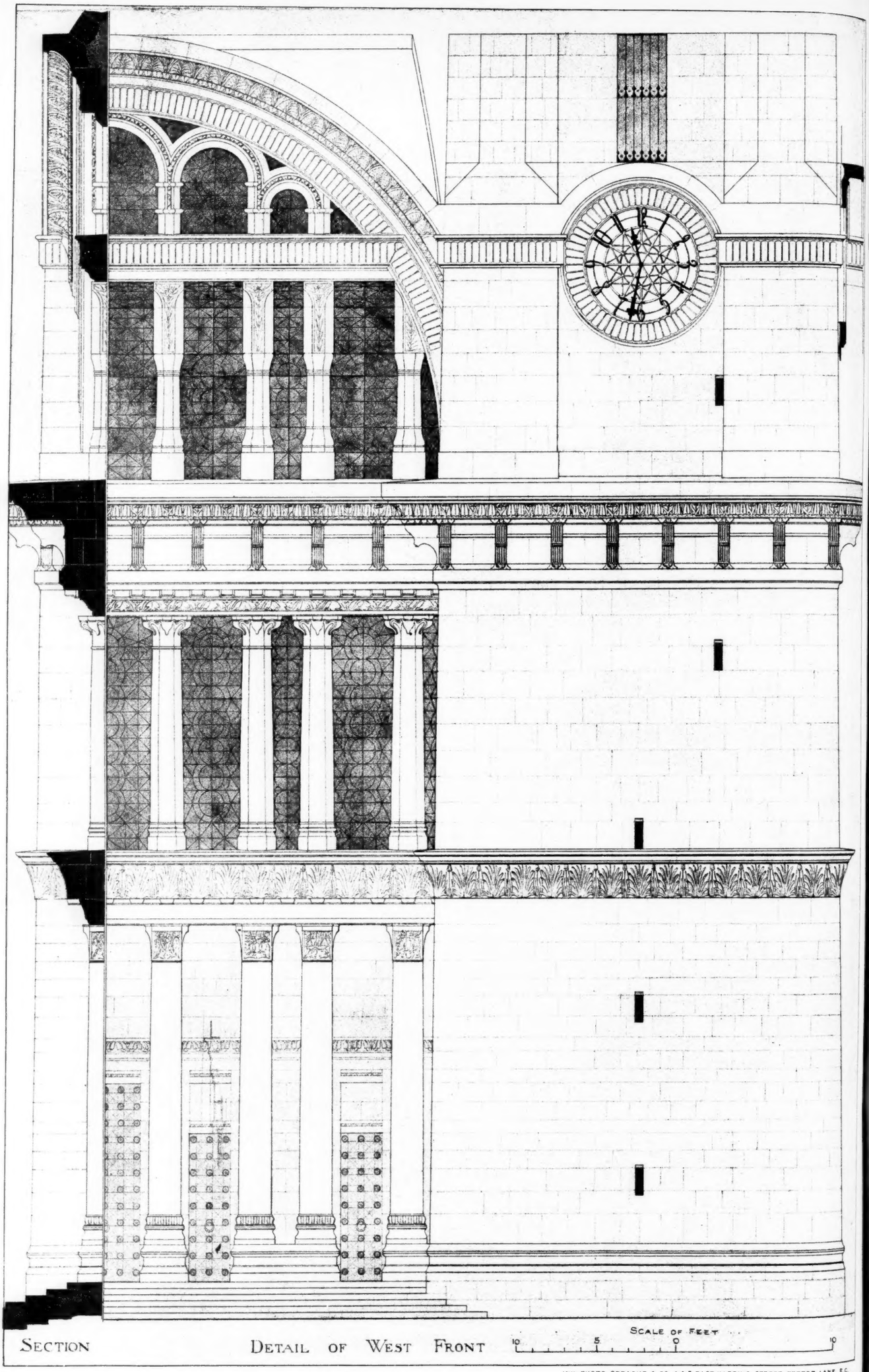

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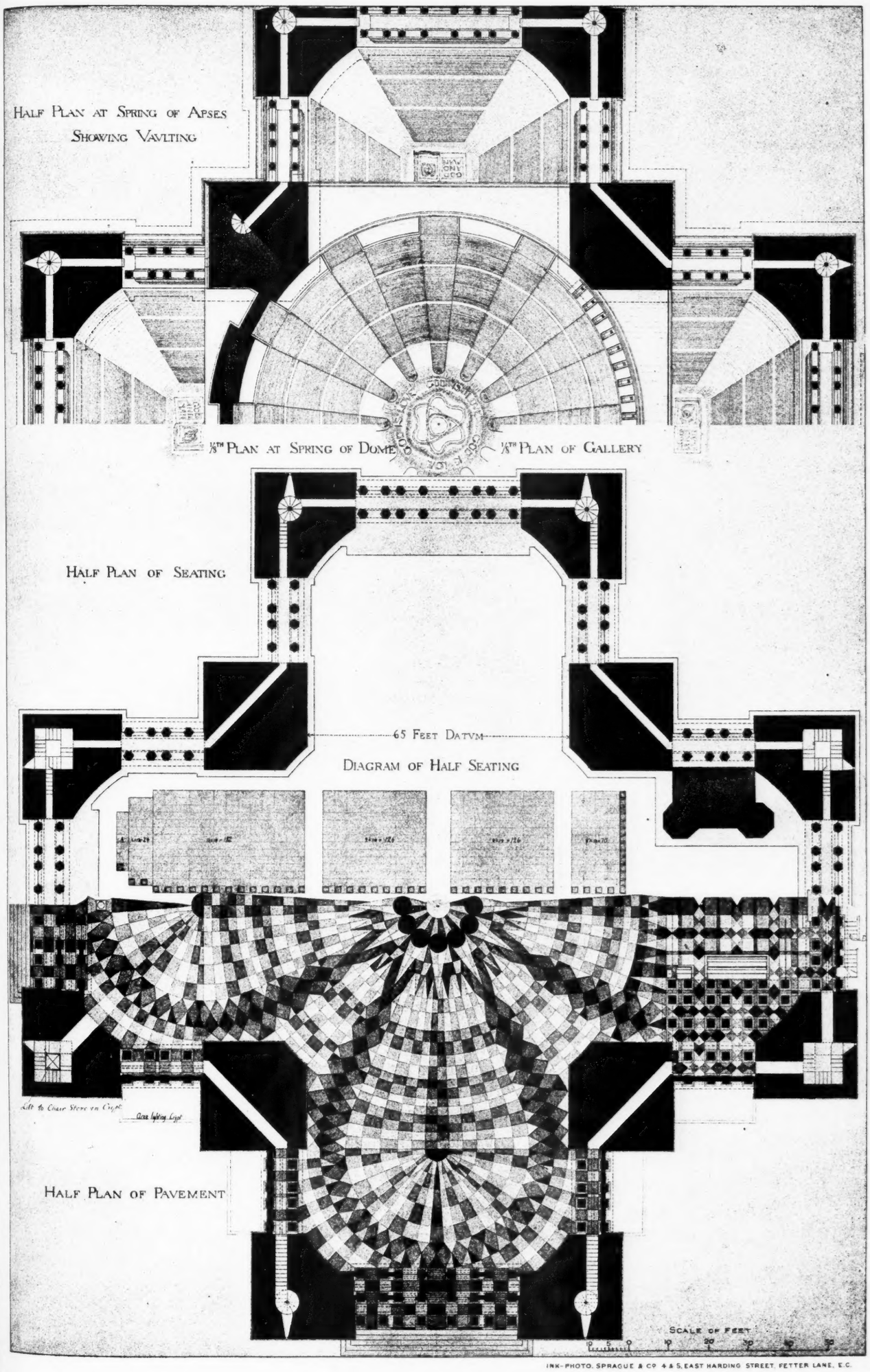
Royal Academy Gold Medal and Travelling Studentship, 1895.


Half Plan at Spring of Apses
Showing Vaulting
⅛th Plan at Spring of Dome
⅛th Plan of Gallery
Half Plan of Seating
65 Feet Datum
Diagram of Half Seating
Half Plan of Pavement
Scale of Feet
10 5 0 10 20 30 40 50
Ink-photo. Sprague & Co 4 & 5, East Harding Street, Fetter Lane, E.C.

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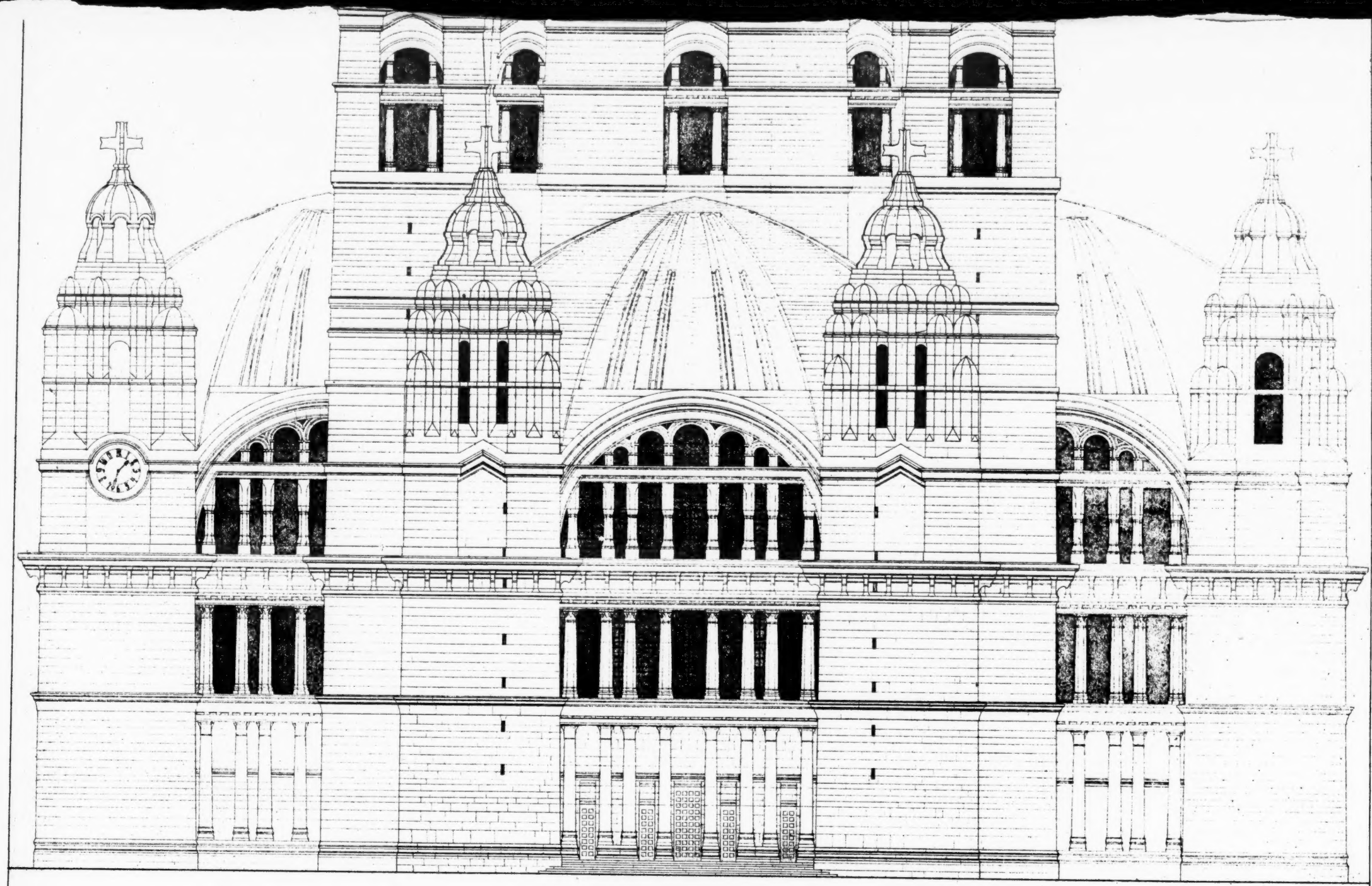

SOUTH ELEVATION

SCALE OF 10 5 0 10 20 30 40 50 100 FEET

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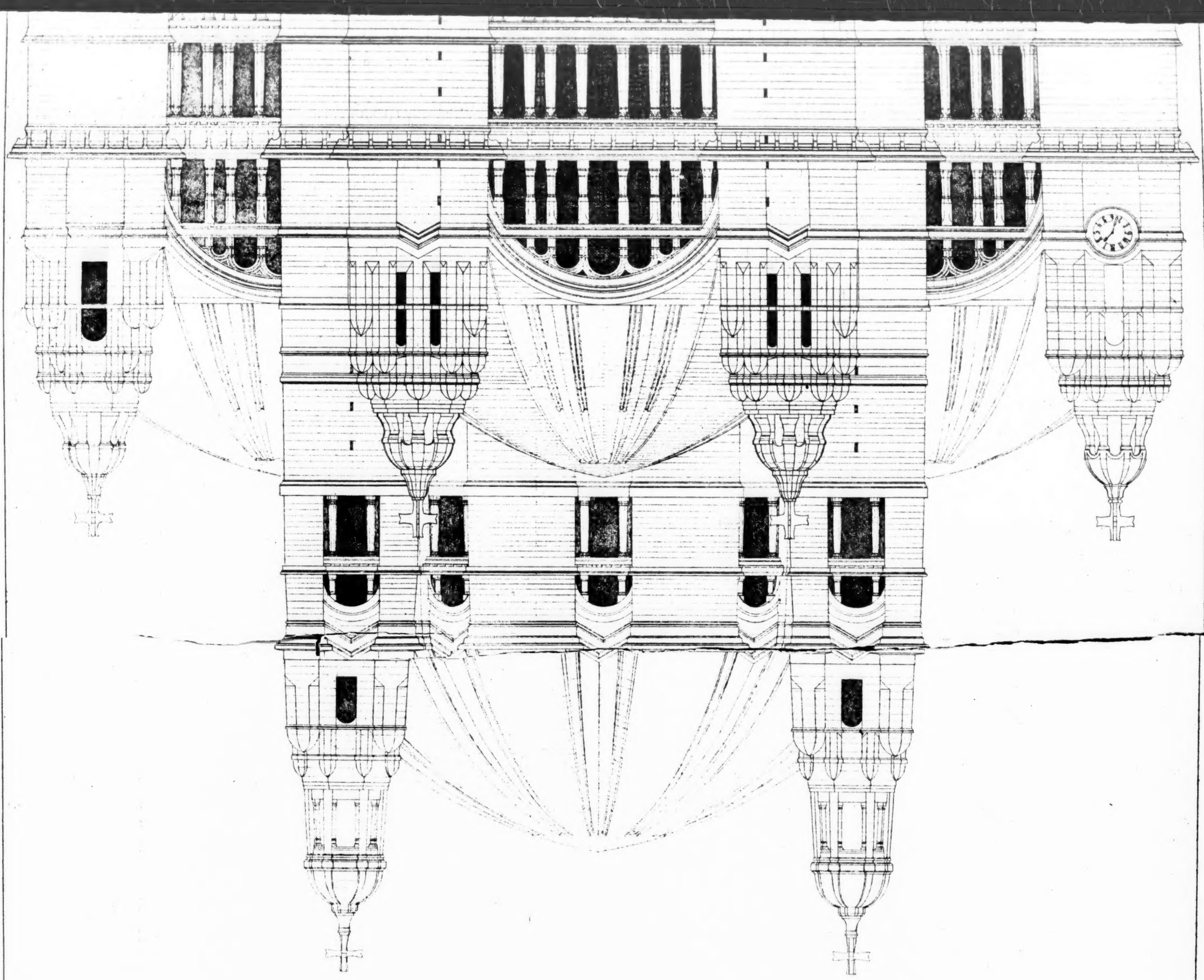

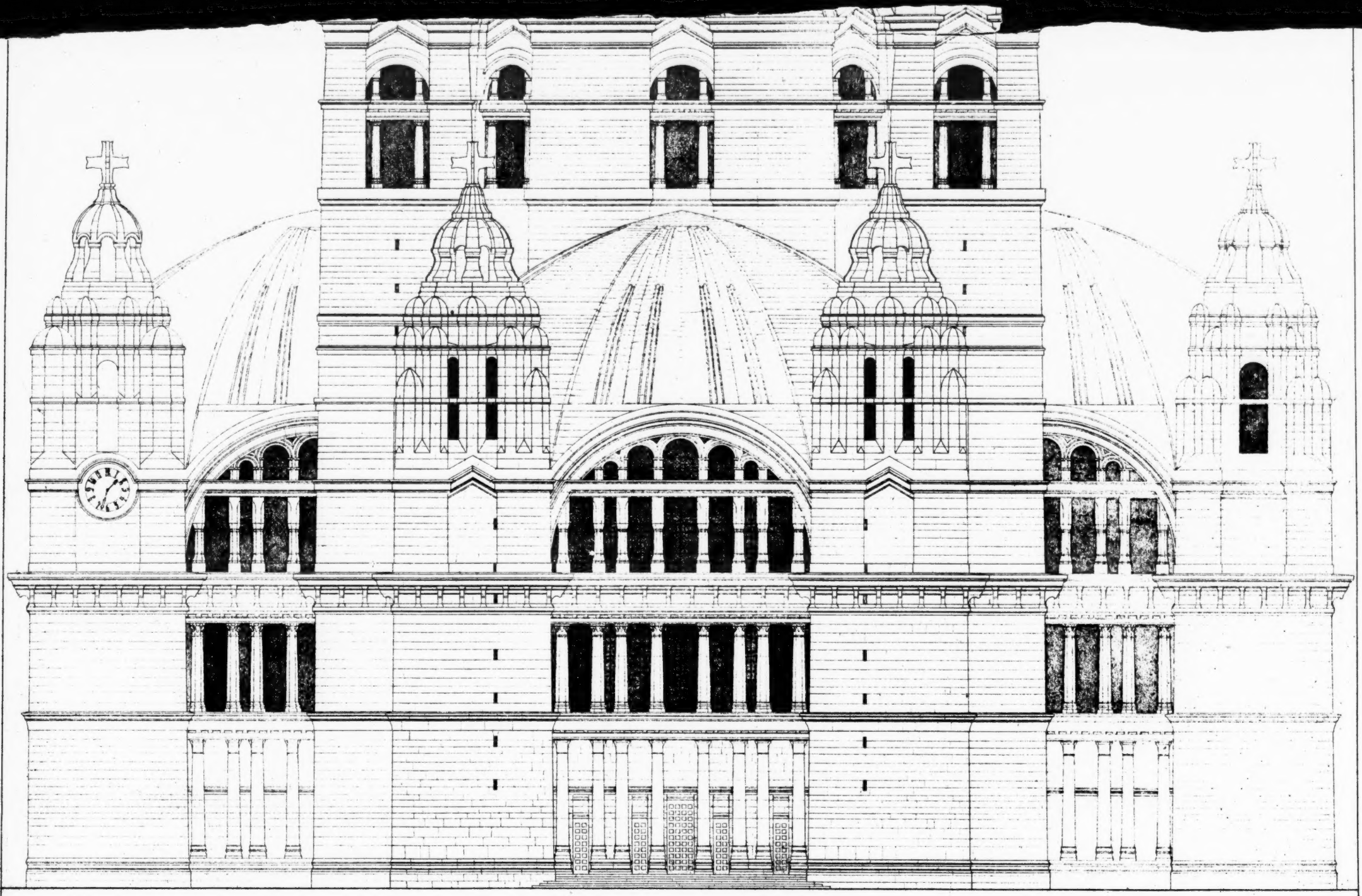

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SCALE OF 10 5 0 10 20 30 40 50 100 FEET

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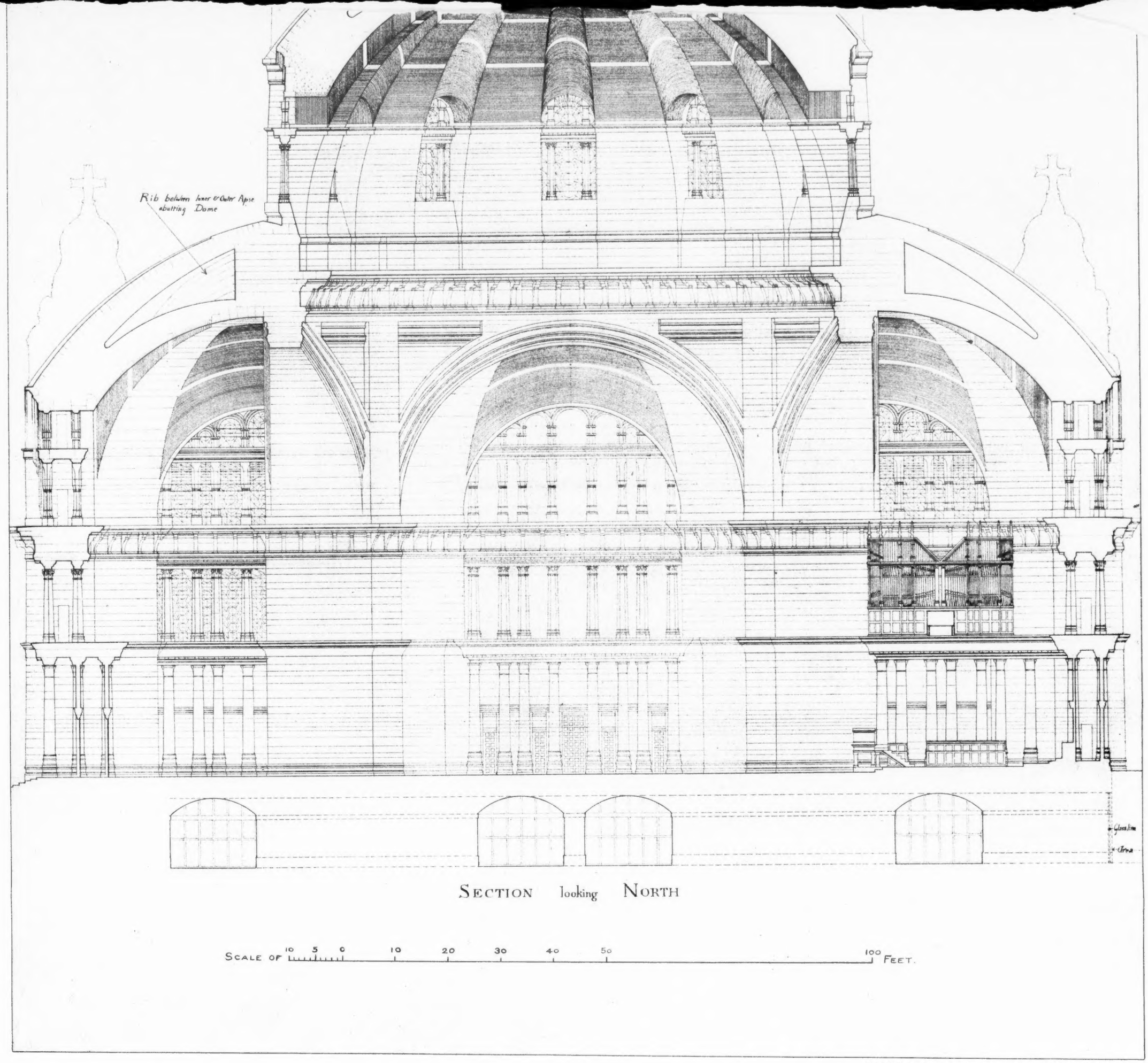
Rib between Inner & Outer Apse abutting Dome


Rib between Inner & Outer Apse abutting Dome
SECTION looking NORTH
SCALE OF 10 5 0 10 20 30 40 50 100 FEET.
INK PHOTO SPRAGUE & CO. 4 & 5 EAST HARDING STREET FETTER LANE, E.C.

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AND

HALL OF THE TRINITY GUILD,

KING'S LYNN.

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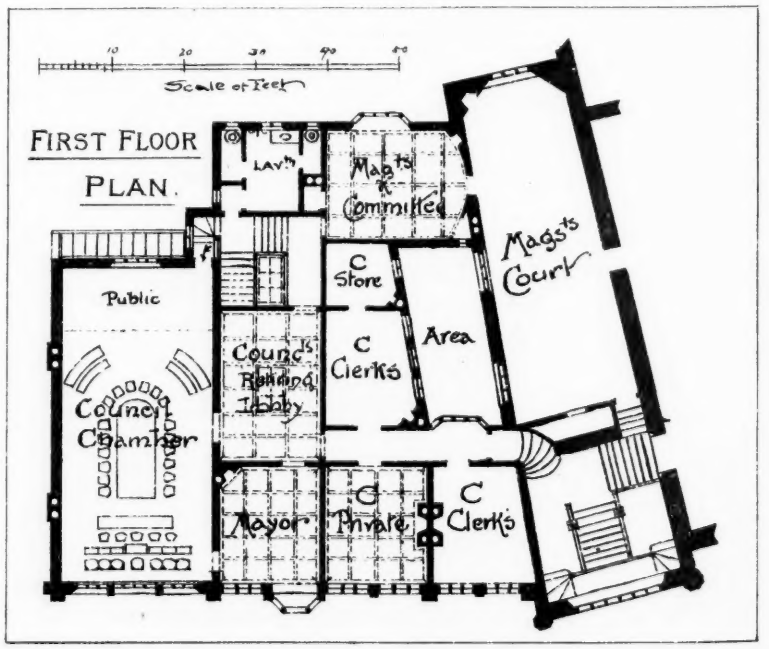

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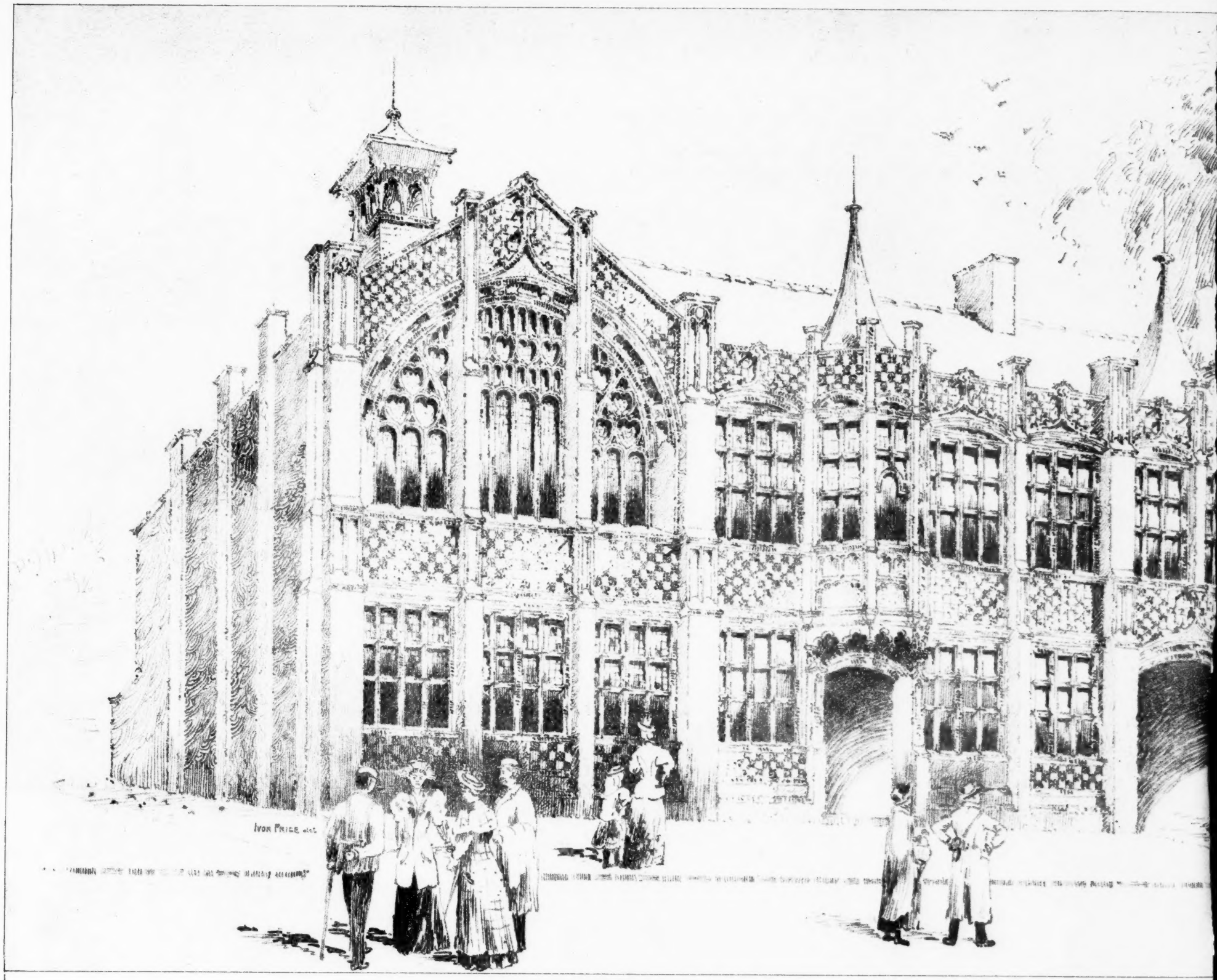

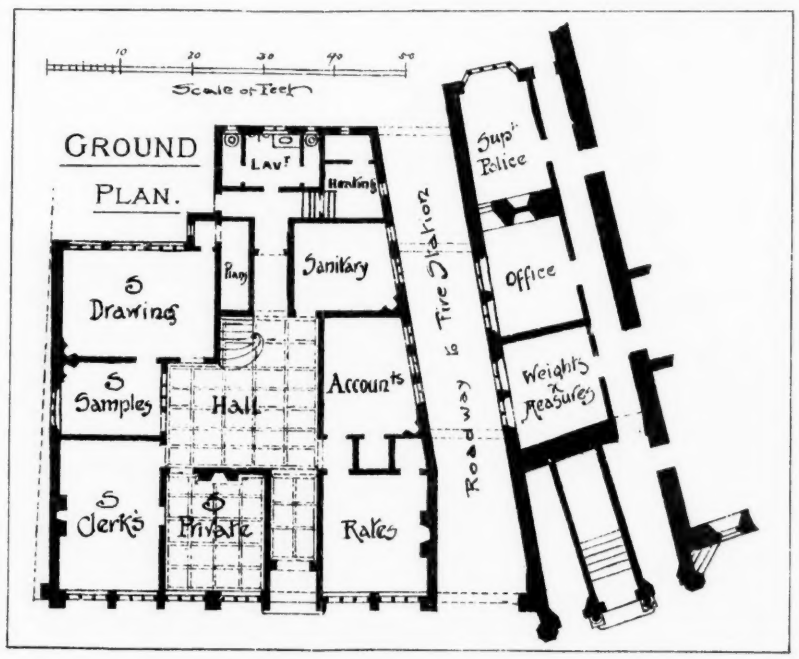

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